Should I Stay or Should I Go? :
Fit, Belonging, and College Persistence Decisions for Students from Low-Income Families

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Abstract

College persistence and completion rates for students from families earning low incomes are consistently lower than for students from wealthy families. Some of these inequitable gaps may be associated with students' perceptions of fit and belonging at higher education institutions dominated by upper-middle-class systems and norms. This mixed-methods study investigates how structural fit and sense of belonging are related to persistence choices made by low-income students who are members of a college-access program. Findings from 628 completed surveys suggest that sense of belonging is associated with persistence choices, but structural fit factors dominate persistence choice in multivariate analyses. Findings from 14 individual interviews support the survey findings, with participants discussing their adjustment to college and experiences as college students. The overall results of the study support earlier research findings of the centrality of financial aid and other aspects of structural fit in college persistence choices as well as the importance of all students feeling that they belong and are valued on college campuses.

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Dedication

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Chapter 1

Introduction

As reported by the *New York Times*, the wealth gap between the top fifth of America's income distribution and the remaining eighty percent is wider now than at any point in the past three decades. For example, the median net worth of families in the top 21 percent of the income range in 2013 was nearly $640,000, while the median net worth of families in the bottom third lagged far behind at $9,300 (P. Cohen, 2014). When confronted by disparities this troubling, we often turn to our education system in hopes of improving economic and social equity.

Education, particularly postsecondary education, is seen as a means of upward mobility in a culture dominated by the need for credentials. As students from working-class and low-income families strive for more secure futures, a Bachelor's degree is often cited as the key that will unlock access to the middle class (Matthews & McKann, 2013; Soria, Stebleton, & Huesman, 2014). Now that a four-year college degree has replaced the high school diploma as the key to a stable middle-class lifestyle, most of today's high school students also aspire to more prestigious careers than previous generations did (Goyette, 2008). Jobs and incomes are closely related to educational attainment, and many youth from working-class and low-income families are also first-generation college-aspiring students, meaning that their parents have not completed a post-secondary

degree. Student success is measured by key indicators and milestones in college readiness, college enrollment, college achievement, and post-college attainment (Perna & Thomas, 2006), and it remains clear that those from lower socioeconomic-status backgrounds are underrepresented among those deemed successful at every step. Underrepresentation in higher education has led to labels placed on students whose families earn low wages. These students are often considered "at risk" of dropping out along the pathway toward academic success (Choy, Horn, Nuñez, & Chen, 2000), and this discrepancy plays out in a continuing gap in college achievement by family income. An analysis of U.S. Census Bureau data revealed that in 2009 only 12 percent of those in the lower half of the national income distribution completed Bachelor's degrees by age 24, while nearly 59 percent of those in the top half of the income distribution attained Bachelor's degrees by 24 years of age (Mortenson, 2010).

As groups of students with lower socioeconomic status approach postsecondary education, it is imperative that they find institutions at which they fit well in terms of structural factors such as academic qualifications, financial cost, and campus location, as well as institutions at which they feel a sense of belonging and community membership. After all, the financial risk of non-completion is more severe for families dedicating an ever-increasing portion of their resources to the costs of college attendance.

Problem Statement

Although post-secondary enrollment rates have increased for all groups over the past three decades, students from low-income families, who are most sensitive to price

increases and price barriers, are still falling far behind their more wealthy peers (Fitzgerald, 2004). From the early stages of college aspiration through the final academic term of their chosen academic programs, students from low-income families experience post-secondary education differently. In their first year of college, students identified as working class report experiencing campus as less welcoming, report lower academic engagement, and have fewer academic interactions with peers (Soria, 2012). Students from low-income families at large public universities were found to be less likely to take advantage of available support services, due to relative lack of familiarity and, in some cases, the incidental costs of participation in these programs (Engle & O'Brien, 2007). Students from low-income families and those whose parents have not completed college are also the demographic group least likely to complete their college degrees (Thayer, 2000).

If students from low-income families are to attain college degrees and related upward social mobility, it is important that they find postsecondary institutions at which they find both *structural fit* and *sense of belonging,* as both of these factors have been found to increase the persistence and eventual graduation of students in higher education. Structural fit is a complex assessment, made up of four factors: the demand for higher education, the supply of financial resources, the expected benefits of postsecondary completion, and the expected costs of postsecondary attendance (Perna, 2006). Students making college enrollment decisions are said to balance these four factors when considering various colleges and universities for their initial enrollment (Perna, 2006) and many of these components have been found to be important for persistence decisions

once a student has enrolled (Baum & Payea, 2003; Nora, 2004; Nora & Cabrera, 1996; Paulsen & St. John, 2002; Perna, 2006b; Plank & Jordan, 2001).

In addition to assessment of structural fit at a given college or university, students also make constant assessments of whether or not they feel a sense of belonging at their chosen institution. Sense of belonging is not only described as a basic human need powerful enough to drive action (Strayhorn, 2012) but also has been found to have both direct effects on institutional commitment and indirect effects on both the intention to persist and the actual reported persistence decisions of students in postsecondary education (Hausmann, Ye, Schofield, & Woods, 2009). Unfortunately, students from low-income families are often faced with the sense that college campuses and the social norms of college life are more characteristic of middle- and upper-income families, leaving students from low-income families feeling left out. This concept of otherness can be described as a departure from one's "habitus," or the unconscious way in which a person interacts with their environment and others around them, based on one's early socialization within social class (Bourdieu, 1986; Bourdieu & Passeron, 1977).

Research Question

Inequities in higher education access and success contribute to social disparities. It is therefore imperative that students from low-income families and first-generation college students not only find postsecondary options that fit their academic preparation and career aspirations, but also find places in which they can adapt to the different *habitus* of their new environment and feel like they belong in college. Given the

differences in social class that often accompany both differences in family income and family education, students from low-income families are more likely to struggle to find a sense of belonging in a *habitus* that is new for nearly all of them (Soria, 2012; Stuber, 2011). Student college choice theory, to be examined in greater depth in the next chapter, has often revolved around notions of structural fit, seeking to predict individual student enrollment choices based on the information prospective students gather regarding postsecondary options (e.g. Hossler & Gallagher, 1987). While recent studies have also taken into account social class constraints and the impact of context on initial enrollment decisions (e.g. Perna, 2006a), very few studies have included persistence decisions and enrollment-decision-making components for current college students (e.g. St. John, Paulsen, & Starkey, 1996).

Although there is an established place in the literature for studies of students' structural fit and persistence decision-making processes, less is known about the potential role that assessments of personal comfort, community, and belonging might play in college students' persistence choices. The central research question in my study is the following: *What are the relative roles of structural fit and sense of belonging within the persistence choice process for students whose families earn low wages?*

In this study, I examine a single iteration of the cyclic college choice process, wherein students are actively deciding whether to persist at their current institution, transfer to another institution, or leave higher education. My study takes into consideration structural fit factors such as cost of attendance, academic area of interest, and financial aid availability, and investigates the extent to which sense of belonging

might play a role in persistence decisions for college students from families earning low wages.

Dissertation Summary

I first review the literature on class-based disparities in college access and success, focusing on the frameworks and theories of student college choice as well as the concepts of structural fit and sense of belonging as they apply to the decisions made by students of low socioeconomic status regarding their chosen institutions of higher education. The literature review includes discussion of previous studies that inform the framework and methodology of this research, as well as the underlying concepts of structural fit and sense of belonging as they pertain generally to college students, and specifically to students from low-income families. Following a review of the existing literature, I introduce the research approach and methods, the research site and participants, the research instruments, and data collection and analysis used in my research.

Quantitative, qualitative, and comparative results of my study are presented in Chapter Four. The dissertation concludes with a discussion of findings, recommendations, and future research directions that have arisen from the process of conducting this research.

Chapter 2
Literature Review

This chapter is a review of relevant literature examining disparities in college success by social class, trends in college access and college choice for students from low-income families, concepts of structural fit between students and their chosen institutions, and theories regarding sense of belonging and college student success. Each of these topics has proven to be pivotal in the construction of this study.

Class-Based Disparities in College Success

Nearly a generation later, it remains difficult to investigate gaps in postsecondary attainment without acknowledging Bourdieu's foundational scholarship regarding social class. In a move away from scholars like Lueptow (1975) who identified "achievement values" and therefore greater economic success as fixed traits within Protestant and Jewish families and those in higher social classes, Bourdieu's (1986) scholarship describing the fluidity and transferability of various forms of capital has helped shape the thinking of the past 30 years. He defined social class as a construct that combined factors of economic capital (accumulated financial wealth and income), social capital (the network of one's family, friends, and acquaintances), and cultural capital (the knowledge of and comfort with the dominant culture) (Bourdieu, 1986). This concept of social class as constructed by distinct and researchable characteristics opened the study of class

differences in education to scholars who have subsequently added breadth and depth to our understanding of the ways in which social and cultural capital either mediate or moderate an individual's opportunities and academic attainment (e.g. Dumais & Ward, 2010).

Social capital is a key component in the creation of both human capital (the combination of skills, knowledge, and abilities that translate into individual capacity for productivity) and economic capital. Social capital can also be understood as the combination of economic theory which involves concepts of utility maximization for individuals pursued through self-interested movement toward a goal, and sociological theory which sees an individual as socialized and following action steps dictated by "social norms, rules, and obligations" (Coleman, 1988, p. S95). Unlike other forms of capital, which exist within an individual or in the form of a physical good, Coleman (1988) describes social capital as existing in the structures of social relationships between and among individuals. As a component of social relationships, social capital can be gained or lost due to changing dynamics between the people who are responsible for facilitating action (Coleman, 1988).

A second influential contribution of theoretical work on the various forms of capital was the use of the term "habitus," defined as a "common set of subjective perceptions held by all members of the same group or class that shapes an individual's expectations, attitudes, and aspirations" (Bourdieu, 1986, p. 9) or "one's view of the world and one's place in it" (Dumais, 2002, p. 45). This concept of habitus has

applications to the relative adjustment of students of low socioeconomic status to various experiences in our educational system.

The advantages bestowed by cultural and social capital and the privileges of growing up with a habitus that includes higher education are a potent combination. David Bills writes "schooling need not enhance productive capacity in the sense of those cognitive or technical skills typically associated with job performance," because individuals and groups with greater cultural and social capital are additionally rewarded in the workplace for the forms of non-economic capital they possess (2003, p. 451). In other words, those with additional years of schooling not only gain knowledge that translates to economic gain through raw productive capacity, but also enhance social and interpersonal dispositions that employers value (Bourdieu & Passeron, 1977). While it is less clear whether additional schooling serves to increase a sense of comfort with the habitus of the elite class or whether access to additional schooling is essentially a reward for those born into forms of greater cultural and social capital (Bills, 2003), there is general consensus in the literature that our educational system remains far from a pure meritocracy. For example, Bourdieu and Passeron (1977) wrote of the American educational system that it reproduces social class standing as much as it increases applicable knowledge, and Bowles and Gintis (1976, 2002) found that many of the economic returns to schooling were "substantially unrelated to the cognitive capacities" measured by tests (Bowles & Gintis, 2002, p. 9). Though Bowles and Gintis do not use the phrase "critical social theory," the concept for which they advocate is similar to critical social theory, an approach that seeks to increase social justice through a better

understanding of how domination and exploitation are reproduced through social systems like education (Martin Lohfink & Paulsen, 2005).

A powerful source of social and cultural capital for a prospective college student is a family history of postsecondary attainment. Simply put, students whose parents attended and graduated from college have a considerable advantage that plays out in many ways during their own pursuit of higher education. Across racial and ethnic groups, students who are the first generation of their family to pursue a college education complete fewer credits, participate in fewer extracurricular activities, study fewer hours per week, work more hours per week, and have lower grades than their collegiate peers whose families have experience with higher education (Martinez, Sher, Krull, & Wood, 2009; Pascarella, Pierson, Wolniak, & Terenzini, 2004). In fact, in a 12-year national longitudinal study (NELS 88:2000), first-generation status was associated with a 35 percent lower likelihood of initial college enrollment (Ishitani, 2005), as well as a nearly 51 percent lower likelihood of Bachelor's degree completion within four years (Ishitani, 2006), both in comparison to continuing-generation students with at least one parent with a Bachelor's degree. First-generation status was also found to account for approximately 22 percent of variation in cumulative college grade point average in the Baccalaureate & Beyond Longitudinal Study, all other factors being held equal (Strayhorn, 2006).

First-generation college status is not only a statistical disadvantage, but it also predicts a more complex process of preparation for college involving overcoming multiple social-capital-derived disadvantages. Among low-income families interviewed for a study on college access, college-aspiring students were almost uniformly found to

be informing and educating their parents about college, instead of the other way around (M. J. Smith, 2001). On the other side of the class divide, continuing-generation students gain additional social and cultural capital-based advantages over their peers by receiving, on average, more encouragement from family and friends for college enrollment and persistence (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996). In addition, continuing-generation students report higher expected levels of educational attainment, higher entrance exam scores, more robust nonacademic experiences in high school, and higher aspirations for education than their first-generation peers (Hahs-Vaughn, 2004). Students with family histories of college completion see themselves as merely completing the "next, logical, expected, and desired stage in the passage toward personal and occupational achievement" (Terenzini et al., 1994, p. 62). The influence of parents' education and income on decisions to apply to four-year and selective colleges has risen over the past three decades, making these inter-generational advantages and disadvantages even more influential (Turley, Santos, & Ceja, 2007).

Another reason for attainment disparities by social class is the context effect of one's neighborhood and local schools. Due to ongoing income, race, and class segregation in housing and schools (Jordan & Plank, 1998; Reardon, Yun, & Kurlaender, 2006; Roderick, Nagaoka, & Coca, 2009), students are likely to be surrounded by other students of similar socioeconomic backgrounds. In part due to the shared nature of cultural and social capital among the privileged, high-socioeconomic-status schools tend to produce graduates better prepared for college and more likely to aspire to and attend four-year institutions (Jordan & Plank, 1998). This connection between socioeconomic

status and schooling outcomes can be partly attributed to the level of access to rigorous college-preparatory curriculum and the shared nature of college plans of peers, both factors which have been found to impact the postsecondary educational and occupational aspirations of individual students (Alwin & Otto, 1977; McDonough, 1997; Roderick et al., 2009). The contextual effect of one's high school has even been found to extend to college success outcomes, as students who graduated from affluent high schools, independent of other personal characteristics, also have the highest rates of college persistence and completion (Niu & Tienda, 2013).

Adaptation Versus Exclusion in Postsecondary Admission Practices

In the current higher education system, where enrollment spots in selective colleges with higher success rates are limited and highly desired, selection criteria must be used to determine initial admission access. Ongoing class-based inequality of access to higher education is thought to stem from one of two ways in which the elite class maintains their relative position in society: exclusion or adaptation. Exclusion theory holds that the elite class works to prevent working-class access to higher education through changing the access criteria to fit the purposes of the elite. Adaptation theory suggests that the elite class maintains its advantage by more effectively and more rapidly adapting to changing criteria for postsecondary access as demand for college degrees increases (Alon, 2009).

Earlier surges in demand for higher education following World War II were met with rapid increases in system capacity, resulting in improvements in the equity of

college access (Alon, 2009). Modern increases in demand have not been met with equivalent increases in enrollment capacity, and as competition intensifies for available spots in colleges and universities, the admissions sorting process becomes more reliant on measures such as standardized entrance exams like the SAT and ACT (Alon, 2009). The increased importance of test scores leads to a decrease in equity of access based on class, as college entrance exams have repeatedly been shown to disproportionately favor those of greater financial means (Atkinson & Geiser, 2009).

Not only do standardized test scores serve as a criterion for inclusion or exclusion during the admission process, but test scores have also been found to explain the highest share of variation in student college enrollment decisions by measures of institutional rankings (Alon, 2009). Essentially, students with higher test scores tend to enroll at colleges and universities that are more highly ranked in our strongly hierarchical system of postsecondary education, serving to expand the privilege accumulated by those with higher test scores by clustering those students at institutions with the most powerful academic, social, and employment networks (Alon, 2009). The small but growing movement away from using ACT or SAT test scores as required elements of admission applications has been heralded as a potential means to greater equity in college access, but a recent study found that moving to "test-optional" admission policies only resulted in an increase in the perceived selectivity of the institution, not an increase in racial, ethnic, or income-based diversity (Belasco, Rosinger, & Hearn, 2014). In fact, there is evidence that escalating admission standards are not only maintaining class-based segregation of higher education enrollment patterns, but also maintaining racial and

ethnic inequality, with Black and Latino(a) students' odds of enrolling in selective colleges declining (Posselt, Jaquette, Bielby, & Bastedo, 2012). This disadvantage in selective college admission for Black and Latino(a) students can be attributed in part to two major factors in the increasingly-competitive admission process: the growing importance of standardized test scores, and the growing importance of participation in leadership opportunities more likely to be found in more affluent and more White school districts (Posselt et al., 2012).

Whether the elite class is adapting more quickly or intentionally excluding those of lower socioeconomic standing, the criteria used by the college admission industry are uniform in their effect, and those of higher status backgrounds continue to be further privileged in the college admission process. Although students from low-income families have made considerable gains in their academic preparation for college since the early 1970s, high-income students have, on average, increased their academic credentials at an even higher rate, resulting in an even greater competitive advantage than was present during a time of lesser competition for admission (Bastedo & Jaquette, 2011). In recent decades, our society has shifted in its conception of higher education as a "collective or common-pool good" consumed by individuals but benefitting society as a whole, toward higher education as a "private good" with personal returns (Savas, 1987). Accompanying this shift toward a personal investment model for higher education, the burden for financing higher education has shifted from society to individuals and families (Baum, Ma, & Payea, 2010; Blundell, Dearden, Meghir, & Sianesi, 1999; Pasque, 2010). Naturally, families with greater financial resources are more able to make investments in

their children's postsecondary education, and wealthy families have adapted to these new financial expectations with relative ease. This significant societal shift has coincided with competitive increases in the admission process and growing attention to selectivity, ranking, and prestige comparisons between institutions, further privileging prospective college students with greater economic, social and cultural capital.

There is no doubt that students from low-income families are drastically underrepresented in colleges with the most stringent admission criteria. The most recent enrollment statistics bear out this underrepresentation, as fewer than four percent of students in our most selective institutions are from the lowest income quartile (Bastedo & Flaster, 2014) and only ten percent of the students at the nation's most selective private colleges and universities come from families in the bottom 40 percent of our national family income distribution (Hill, Winston & Boyd, 2005, as cited in Hill & Winston, 2010). As these patterns of low-income underrepresentation continue, there is increasing concentration of the highest-socioeconomic-status students in the most prestigious and selective institutions (Astin & Oseguera, 2004). This degree divide based on family income and social class can be seen in the phenomena of "talent loss" and "undermatching."

Talent Loss and Undermatching

National patterns of postsecondary enrollment are linked with family socioeconomic status. At every level of academic achievement, higher-income individuals are more likely than lower-income individuals to enroll in postsecondary

education, as well as more likely to enroll in four-year institutions instead of two-year institutions (Plank & Jordan, 2001). Not only does an enrollment gap exist at every level of academic achievement, but the gap itself also grows larger as observed level of family income level and socioeconomic status decreases. This pattern results in a growing concern about societal talent loss, a phenomenon in which an academically qualified high school graduate never enrolls in postsecondary education (Jordan & Plank, 1998; Plank & Jordan, 2001).

Although financial difficulties contribute to this phenomenon, they do not fully explain its occurrence (Jordan & Plank, 1998). Within the highest academic-achievement quartile, only 2.7 percent of students in the highest income quartile never enroll in college, whereas 22.6 percent of highest academic-achievement-quartile students in the lowest income quartile never enroll in college (Plank & Jordan, 2001). This enrollment gap due to family background is exacerbated by the reality that high-income students are also much more likely to be among the highest academic achievers when measured by standardized exam scores, comprising nearly 53 percent of the top achievement group and only nine percent of the lowest achievement group (Plank & Jordan, 2001).

Factors that contribute to the talent-loss phenomenon for students from low-income families include: less access to information about postsecondary education, less guidance from parents and school personnel regarding preparation for college, fewer key actions taken in preparation for college (e.g. high level of student-parent discussion about college, parent encouragement to prepare for ACT or SAT exams, visited at least one college campus with parent, parent's use of financial aid information), less exposure to

high-content high school curriculum, and a lower level of general school resources (Jordan & Plank, 1998; Plank & Jordan, 2001).

Among students from low-income families who enroll in postsecondary education, an additional concern is the phenomenon known as academic undermatching, wherein a student chooses to attend an institution that is less selective in its admission criteria and potentially less challenging academically than those institutions for which he or she had the academic qualifications. Institutions considered "more selective" accept a lower percentage rates of applicants, and typically have student populations with higher average standardized test scores and higher high school grade point averages, as these two statistics form the numeric core of measurements used by admission offices to determine preparation and academic ability. Undermatching is a relatively common phenomenon across the country, particularly for those students who come from low-income families, those who live in rural areas, and those whose parents lack college degrees (J. Smith, Pender, & Howell, 2013). Although this phenomenon has decreased slightly in recent years, it remains particularly prevalent for first-generation students (Pascarella et al., 2004; J. Smith et al., 2013).

This undermatching phenomenon for students from low-income families cannot be said to result from a difference in academic ability, as high-ability students from low-income families make up a greater share of the national population than of the student bodies of selective private colleges and universities (Hill & Winston, 2006), and wealthy students "applied to a significantly greater percentage of highly selective schools in each of the academic quartiles" (Engberg, 2012, p. 586). In a longitudinal study of Texas high

school seniors of the class of 2002, only 11 percent of top-decile graduates from affluent high schools enrolled in two-year colleges well below their qualifications, compared to 25 percent of comparably ranked students from high-poverty-rate high schools who enrolled in community and technical colleges (Niu & Tienda, 2013).

One central reason for concern regarding the selectivity of a student's chosen college or university is the consistent finding that graduation rates are higher at selective than at nonselective institutions (Alon & Tienda, 2005; Ishitani, 2005; Melguizo, 2010). It is important to note that the observable benefits of attending a selective institution do not come directly as a result of the level of selectivity (Heil, Reisel, & Attewell, 2014), but rather indirectly through the other value-added qualities correlated with highly selective institutions. Highly selective institutions tend to have significant financial resources directed toward student success in the form of smaller classes, more contact with faculty, greater financial aid availability (Alon, 2004, as cited in Alon & Tienda, 2005), and greater mechanisms of support for socioeconomically disadvantaged students (Alon & Tinto, 1993, as cited in Alon & Tienda, 2005). In fact, there is a negative correlation between percentage of a college's students who receive Pell Grants and the six-year graduation rates for Bachelor's degrees, with even stronger negative effects on graduation rates for institutions with comparatively smaller endowments (Advisory Committee on Student Financial Assistance, 2013). In other words, schools that serve a large proportion of students from low-income families have low graduation rates, with under-resourced colleges and universities in this category reporting lower six-year graduation rates than more wealthy institutions. Unfortunately, institutions with fewer

resources are often more accessible to students from low-income families because these institutions rely more on competitive pricing than reputation to attract and enroll students.

Results of a study with students who applied for the prestigious and highly competitive Gates Millennium Scholarship in 2001 showed that an individual student's need to attend a low-cost college and an individual student's reporting less difficulty than peers with the homework assigned in college were associated with "decreases in the odds that a student will attend his/her first-choice college" (Allen, Bonous-Hammarth, & Suh, 2003, p. 10). Stated plainly, although applicants for the Gates Millennium Scholarship are academically qualified to attend highly selective institutions and likely to succeed in demanding academic programs, many are constrained by their financial circumstances and enroll in less rigorous, lower-cost institutions, thereby undermatching. Although evidence suggests that college access programs can decrease undermatching among their participants (Avery, 2013), focused interventions of this type are not available to all underrepresented students.

A similar-sounding but substantially different theory is referred to as college mismatch, which predicts that students (often specifically students of color) who enter selective colleges and universities with lower average ACT or SAT scores than their peers will be more likely to struggle academically and more likely to drop out. Opponents of race-conscious affirmative action often advocate for this theory in their desire to further centralize what they believe to be objective measures of college readiness, but research does not support the hypotheses that such students will have lower grades (Kurlaender & Grodsky, 2013), persistence rates, or graduation rates at more selective

institutions (Alon & Tienda, 2005; Kurlaender & Grodsky, 2013). In fact, more selective institutions tend to have higher persistence and graduation rates for all students, which suggests that selective colleges and universities could do much to reduce inequities by reconsidering their admission criteria and actively pursuing greater numbers of talented students from families earning low wages.

Student College Choice Literature

In order for prospective students to pursue a college degree, they must first learn about available post-secondary options and begin the process of choosing a college. This initial enrollment decision is then followed by repeated persistence choices, with students deciding among their options of remaining enrolled at the same institution for future academic terms, transferring to another institution, or leaving postsecondary education either temporarily or permanently. Early studies of the college-choice process were generally focused on the initial admission process from the perspective of the college or university, and these studies resulted in recommendations regarding the types of information institutions should gather to understand the nuances of their pools of prospective students. Astin (1965) theorized that, because students tend to choose the destination college or university in which they find other students like themselves, colleges need to recruit students with desired attributes in order to make changes in their institutional climate, instead of changing the institutional climate to attract students with more desirable traits.

One of the first theoretical models of student college choice focused on three components: students' personal characteristics, the admissions process that students experience, and college characteristics (Dembowski, 1980). This model was used to predict admissions yield, the percentage of students who enroll among those offered admission. The choices students made were assumed to be measureable and predictable through quantitative studies of the component factors of their decisions. Admission offices that made use of this formulaic approach to estimate likelihood to enroll could thereby calculate how many students to accept in order to enroll an ideal-size incoming class of new students (Dembowski, 1980; Maguire & Lay, 1981).

The next shift in theory development regarding student college choice was centered on marketing and recruitment policy and was designed to maintain financially efficient admission operations in a time of increasing competition for students, many of whom were beginning to expand the number of institutions to which they were applying. Chapman (1981) focused on the outcomes of the college search and the moment of final enrollment selection by students, hoping to understand what factors influenced college choice decisions. His model was the first to consider and compare background characteristics of the student and the institution. Chapman believed that students select the institutions to which they apply based on their perceived likelihood of acceptance, comparing their academic qualifications to the statistics colleges publish regarding the entrance exam scores of recently enrolled classes (D. W. Chapman, 1981). Student characteristics such as socioeconomic status, academic aptitude, level of educational aspiration, and high school academic performance were theorized to interact with

external influences such as: significant persons in the lives of prospective students (friends, parents, high school personnel), fixed college characteristics (cost and financial aid available, physical location), and a college's efforts to communicate with prospective students (course catalogs, basic information brochures, recruiting and admission functions). The end result of the interplay of student characteristics and external influences was a class of students who had been selected for admission by the institution, and then made enrollment decisions based on their "general expectation of college life." (D. W. Chapman, 1981). While Chapman's model acknowledges that student and family socioeconomic status influence eventual college choice, it assumes both that students are traditional-age new entering students, and that there are no differences in the college search and choice process based on first-generation or continuing-generation status.

These early studies of student college choice are best described as variations of Human Capital Theory (Becker, 1993, as cited in Perna, 2006). Human Capital Theory proponents assume that additional years of schooling raise an individual worker's productivity and therefore earnings, mostly through increased knowledge, enhanced physical skills, and more well-developed analytical skills (Becker, 1993, as cited in Perna, 2006). Human Capital Theory also includes the expectation that people will make decisions as rational economic actors, choosing long-term benefit through short-term investment in additional education when that option is more beneficial, and choosing to enter or re-enter the workforce when that option is financially advantageous. Economic models based on human capital see the rewards such as "a higher-paying job, more satisfying or higher-status work, or even the pleasure of greater understanding of the

surrounding world" (Coleman, 1988, p. S116) as flowing to the individual who makes the personal investment in higher education. In this framing of decision-making, student college choice theories of this nature also assume that individuals are pursuing degrees for personal and not communal benefits.

College choice models of the 1980's were predicated on consumer opinion and market forces approaches (e.g. Cook & Zallocco, 1983; Litten, 1982), and remained focused on helping admission offices determine how and when to pursue differentiated recruitment strategies. College rankings became more important for attracting prospective students as competition for students increased in the early 1980s, and institutions reacted by expanding efforts to shape their incoming classes. At the same time, researchers were beginning to acknowledge that the search and selection processes were significantly different for students of varying social class and family resources. Research found that intentional focus on maximizing efficiency of recruitment would require additional information provided to prospective first-generation students because of their college knowledge deficits (Litten, 1982), but these expanded efforts were not necessarily connected to concerns about educational equity. Chapman (1986) continued the trend of consumer behavior study and expanded the consideration of college choice by separating the pre-college process into five stages: pre-search behavior, search behavior, application decision(s), choice decision, and matriculation decision. Chapman's model was intended to serve as the basis for ongoing and future research on college choice, not for use in predicting enrollment, and this intentional shift in theoretical aims opened new avenues for theory development and research.

Building on Chapman's work, Hossler and Gallagher (1987) introduced the three-stage, college-choice categories of predisposition, search, and choice. The predisposition phase entails the period in time during which a student decides to pursue postsecondary education, the search phase involves seeking and comparing information about various college and university options, and the choice phase includes the process of comparing options after acceptance to make an enrollment decision (Hossler & Gallagher, 1987). This three-phase model was a distinct break from previous research, which considered the entire process through the lens of the final decision. This theory regarding three distinct phases of a student's individual college enrollment decision also led to the new research approach of investigating individual stages in the process, instead of only comparing individual students' final enrollment decisions (Hossler & Gallagher, 1987). The focus at this time was still firmly on policy makers and institutions, but definitions of discrete stages in a student's pre-college process have proven helpful to both researchers and practitioners. As research into student college choice expanded during the 1990s, there was increasing recognition that psychological, sociological and economic theories and methods all contribute to the understanding of how students make enrollment decisions and the ways in which various students approach the college-going process (Paulsen, 1990).

Current understandings of the ways in which the student college choice process is different for students from low-income families and first-generation college students came from studies focused on structural factors such as financial aid and cost, including the finding that students from low-income families are less likely to enroll in college than

their peers of similar academic ability from upper-income families (e.g. Cabrera & La Nasa, 2001; Perna & Titus, 2004). In college persistence-focused research with the high school class of 1980, St. John (1990) found that the likelihood of enrollment is more affected by grants than by the listed price of tuition for students from low-income families, and that high-socioeconomic-status students' decision to enroll in postsecondary education is effectively unchanged by financial aid awards. Not only can financial hardships effectively restrict a student's opinion of realistic options to consider, but also the availability of funds for college-related expenses greatly affects the final enrollment choice made by a given student (Baum & Payea, 2003). In a study with students from low-income families attending a large Midwestern institution, financial aid is also found to play a large role in decisions about first-year to second-year persistence (Nora & Cabrera, 1996).

This increased focus on the impact of finances on college decisions led to closer examination of sociocultural factors such as first-generation status and gaps in social and cultural capital by class. For example, a study of college enrollment decisions through the lens of personal investment and capital conversion found that students attending elite institutions base their expectations of the future on assumptions that they would be able to convert their enhanced cultural capital into their desired economic outcomes, while students at non-elite schools expect direct conversion of their desired degree into economic returns without consideration of the role cultural capital might play as a mediating or moderating factor (McDonough, Antonio, & Horvat, 1997). With the finding that the importance of college rankings in the student college choice process

increases with family income (McDonough, Antonio, Walpole, & Pérez, 1998), this understanding of and investment in cultural capital by those who already possess greater amounts of it further contributes to the increasing gaps between socioeconomic classes in our society.

Increased family cultural capital also impacts the information-gathering process for students of varying backgrounds. Numerous studies found links between variations in parental knowledge of the college-going process and differing outcomes for student enrollment decisions. Parents with college educations are intentional about transmitting their knowledge of the college search and application process to their children (McDonough, Antonio, & Horvat, 1997; McDonough, 1997), imparting an advantage in families with multi-generational college attainment. The influence of college-educated parents also plays out in the form of heightened educational expectations for children, proactive encouragement such as involvement in school activities, increased parental financial savings for college, and additional parent-student discussions about college and other education-related topics (Cabrera & La Nasa, 2000). Even among students for whom financial aid might make a particular college option more attractive (e.g. a four-year college or university instead of a two-year college), an increased knowledge of financial resources, in many cases, does not always overcome the differences in habitus by social class or the gaps in cultural and social capital by class that play a more prominent role in final enrollment choice (Nora, 2004).

As researchers continued to develop theories of student college choice, the natural progression for the field was to break apart theories previously assumed to apply to all

students equally and begin to articulate how college choice may function differently based on individual student circumstances. More recent theory has expanded to include greater depth of consideration of social and cultural capital differentials, as well as multiple theoretical perspectives that combine the economic, psychological, and sociological models that previously stood alone (Freeman, 1997, 1999; Perna, 2000). In parallel with studies of identity development that have more recently acknowledged and elaborated upon differences between cultural groups in their description of student development in college (e.g. Bowman, 2009; Solórzano, Ceja, & Yosso, 2000; Tanaka, 2002), college choice theories have been differentiated for various population sub-groups. For example, the earlier Human Capital Theory models of economic college choice have now been re-examined and specified for first-generation students and other students from low-income families who have been found to make less accurate estimates of the costs and benefits of college enrollment decisions than their more advantaged peers (Paulsen, 2001, as cited in Perna, 2006). These newer Human Capital Theory models, like their predecessors, do not assume that any given student has perfect or complete information regarding college options, but recent research has shown that knowledge gaps remain between high-socioeconomic-status (often White) families with greater social and cultural capital and low-income, first-generation, Black, and Hispanic families with less college success across generations (Perna, 2004).

Further methodological expansion of college choice theory has opened the door for qualitative and descriptive research (e.g. Freeman, 1997; McDonough, 1997), added to the mostly quantitative predictive work done in the early 1990s and earlier. Many of

these studies (e.g. Ceja, 2006; McDonough et al., 1997; Perez & McDonough, 2008; Perna & Titus, 2005; Wohn, Ellison, Khan, Fewins-Bliss, & Gray, 2013) followed the progression of sociological models, which also included social and cultural capital motivational constructs instead of relying on models of status attainment as motivation for college enrollment decisions. Status attainment models have been used to "predict that individuals with higher levels of academic preparation and achievement receive greater encouragement…and this encouragement promotes higher aspirations [and] greater educational and occupational attainments" (Perna, 2006a, p. 111).

Built on a review of previous research on student college choice, and incorporating both economic models of human capital investment and sociological models of status attainment, Perna's (2006) model assumes that multiple routes to college enrollment are not only possible but realistic and likely, given the vast differences among individual students in terms of situated context. Perna's model contains four layers of context within which a given student is situated, and seeks to understand how inequality of social and cultural capital play out as a prospective student moves toward enrollment. In Perna's (2006) model, the decision-making factors are situated within a series of layers of context, specific to each student. The first layer is that of habitus, made up of demographic characteristics like gender and race or ethnicity, cultural capital in the forms of cultural knowledge and the value one places on college attainment, and social capital in the forms of information about college and assistance with college processes. The second layer describes the school and community context for a given student: the availability of school and community resources, the types of those resources available to

students, and the structural supports or barriers in place in the school and local community. This layer of context influences both the habitus layer as well as the final economic choice model.

The third layer of Perna's (2006) model describes the higher education context surrounding a given student. This context involves the marketing and recruitment done by various colleges, the location of the student relative to institutions of higher education, and the characteristics of higher education institutions familiar to the student. The higher education context layer influences the school and community context, the habitus of an individual student, and the final economic choice model. The final and outermost layer of context considered in Perna's (2006) model is the social, economic, and policy context. This layer "recognizes that college choice is also influenced, directly and indirectly through other contextual layers, by changes in social forces (e.g., demographic changes), economic conditions (e.g., unemployment rate), and public policies (e.g., establishment of a new need-based grant program)" (Perna, 2006a, p. 119). This layer of context includes both local and state-level influences, and acknowledges that forces outside a given student's individual context can also shape their decisions regarding higher education. This model of the student college choice process allows for a comparison of the costs and benefits of various enrollment options, while acknowledging that various levels of context result in both differentials in realistic choice sets for students as well as differentials in the amount and type of information about higher education available to students in a variety of life circumstances and cultures.

Perna summarizes her model: “although college choice is ultimately based on a comparison of the benefits and costs of enrolling, assessments of the benefits and costs are shaped not only by the demand for higher education and supply of resources to pay the costs but also by an individual’s habitus and, directly and indirectly, by the family, school, and community context, higher education context, and social, economic, and policy context” (Perna, 2006, p. 119). This explanation places the final cost and benefit analysis of student college choice, a standard economic rational choice model, into the deeply situated context of sociological approaches that honor the varying levels of information and constrained choices available to students of differing socioeconomic status levels and family educational backgrounds.

The shift toward interdisciplinary approaches to studying student college choice has also been accompanied by the increasing application of critical theory lenses that seek to expose the power and privilege behind systems that reproduce educational disparities. Critical theory has been described as an approach to research that “emphasizes that particular sets of meanings, because they have come into being in and out of the give-and-take of social existence, exist to serve hegemonic interests” (Crotty, 1998, p. 59). In an attempt to disempower established structures and confront imbalances of power, many researchers now advocate for qualitative research that can draw out the experiences of students who are first-generation and from low-income families to present these lived experiences as valid and valuable (e.g. Stieha, 2010). Critical Social Theory in particular has been suggested as an effective lens for researchers who want to consider the ways in which family economic circumstance and student work and loan burdens

"influence academic and social involvement, the intermediate variables known to be related to student success in college" (St. John, 2006, p. 1617). Research approaches like this serve critical theory goals by empowering those from groups that have been systematically disadvantaged or overlooked.

Fit and Belonging in College

Among the many ways in which the match between an individual and his or her chosen postsecondary institution can be evaluated, two types will be discussed: structural fit and sense of belonging. I employ these two categories based on Vincent Tinto's 1975 description of the two dimensions of student integration that could be used to examine a given student's commitment to both their chosen institution of higher education as well as to their personal goal of graduating from college. Tinto referred to these two dimensions as "structural integration," or the extent to which a student met the "explicit standards" of the college and vice versa, and "social integration," or the extent to which a student finds himself or herself fitting in with the "social system" of the campus (Tinto, 1975, p. 104). For the purposes of this research, factors considered for structural fit are those elements that potentially constrain a given student's choice set among all possible colleges and universities, including such primarily quantitative factors such as cost of attendance, financial aid, the academic qualifications and ongoing performance of a given student, as well as additional situated context factors that impact the "economic choice" model of student college choice (Perna, 2006a). Factors considered for sense of belonging include the elements of an institution and the personal experiences of students

on campus that contribute to whether or not, and to what extent, a student of lower socioeconomic status develops a sense of belonging and feels integrated into the social fabric of a given college or university.

Structural Fit

Structural fit can be thought of as a match between institutional factors and an individual student's profile, with examples including whether or not the following conditions hold: the student's academic qualifications are typical of students at that institution, the cost of the institution is acceptable given available and obtained financial aid, the location of the campus is within a distance from home that a given student considers appropriate and feasible, and the institution offers the degree or specific area of study that a student seeks.

Financial aid is one powerful background factor that influences whether or not a given student is able to enroll in a given institution. Students from low-income families are three times more sensitive to institutional grant aid in terms of their choice elasticity, that is, the flexibility of available choice options (Hurwitz, 2012). In a six-year national study of first-time-in-college enrollees, financial aid availability and knowledge of its availability affected not only a student's ability to enroll in his or her chosen institution, but also the initial decision about whether or not postsecondary education was a realistic aspiration (Nora, Barlow, & Crisp, 2006). Results from the National Study of Student Learning indicated that insufficient financial aid appeared to be a significant reason for differences in persistence for first-generation students once enrolled in college (Pascarella

et al., 2004). Interviews with students, counselors, outreach professionals and financial aid directors revealed that debt aversion can also serve as a barrier to low-income families faced with the realities of a federal financial aid system that has shifted steadily away from need-based grants toward personal loans (Burdman, 2005).

Public policy also plays a part in financially-motivated enrollment decisions, as regression discontinuity analysis revealed that the mere presence of a state-funded, need-based grant program in Florida increases the likelihood of Bachelor's degree attainment within six years for all students in the state, with a nearly 22 percent difference in completion rate between students just above and just below the eligibility cut line for low-income applicants (Castleman & Long, 2013). Many barriers to access and success stem from differences in financial literacy based on social class and cultural capital (Eitel & Martin, 2009), making the decision about a financial fit in postsecondary education more challenging for low-socioeconomic-status students and often artificially constraining the set of institutions a student considers initially possible.

One innovative study that supports the identification and on-going application of individual structural fit factors was a study of the "nexus between college choice and persistence" (St. John et al., 1996). This study sought to test whether or not variables found to have predictive value for initial college enrollment decisions can be used to predict subsequent student decisions about persistence once enrolled and attending college courses. Before this point, scholars had typically focused on pre-college enrollment decisions and ensuing persistence decisions as separate processes. In considering choices among institutional options within a market-based model, the study

established that "if a particular variable, such as financial aid, increases the likelihood of a matriculation decision, that same variable may influence the likelihood of a persistence decision and/or how intervening factors influence this decision" (St. John et al., 1996, p. 183).

As discussed previously, academic "matching" is an increasingly studied aspect of the college decision-making and college access processes. Whether or not a given student is attending an institution that presents appropriate intellectual challenge for his or her abilities can determine much of the extent to which a student finds a *fit* in terms of academic structure. Undermatching, the phenomenon wherein a student attends a less-selective or less-challenging institution than her or his qualifications, remains a particular risk for low-income and first-generation college students.

An additional concern for students from low-income families when considering college is physical location of institutions. Data from the twelve-year-long National Educational Longitudinal Study of 1988 (NELS) showed that many low-socioeconomic-status and ethnic-minority students consider the ability to attend a college close to home as a pivotal factor in their enrollment decisions (Turley, 2009). For many low-income families, part-time work to support the family is an expectation of all members old enough to do so, and the ability to live at home while in college can reduce much of the additional cost of attendance above and beyond the standard tuition and fees, making proximity to home a more valid factor in enrollment decisions than previously considered by general models of college choice (Turley, 2009).

Sense of Belonging

Beyond structural factors that influence whether or not a given student persists in his or her pursuit of higher education are a group of less-quantifiable characteristics of the college experience. Terms like *fit* and *belonging* are also used qualitatively to describe to what extent a student feels comfortable in a given institution. An early study that included belonging in relation to research regarding student persistence described this perception as a self-evaluation of how students felt like they "fit in" (Bean, 1985). This idea of "fitting in" is a more qualitative than quantitative assessment, and differs from the *structural fit* concept I operationalize in this study. Since this introduction of "fitting in," concepts of belonging have proven difficult to explain, let alone study systematically, because of the variation in factors that affect individual students and their emotional reactions to a college campus. Adding to the conceptual complexity is the variety of combinations of related factors such as institutional commitment and social integration (Nora & Cabrera, 1993) and involvement in the campus community (Hurtado & Carter, 1997) which, while related, are not precisely the same concept as sense of belonging, a subjective psychological construct describing one's sense of value to a community (Hausmann, Schofield, & Woods, 2007; Hausmann et al., 2009).

The working definition of belonging for this research is inspired by Strayhorn's (2012b) definition as follows.

> "…[S]ense of belonging is framed as a basic human need and motivation, sufficient to influence behavior. In terms of college, sense of belonging refers to students' perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group (e.g., campus community) or

> others on campus (e.g., faculty, peers). It's a cognitive evaluation that typically leads to an affective response or behavior" (Strayhorn, 2012b, p. 3).

"Belongingness" is one of the key psychological needs located above basic physiological (food, water, warmth, rest) and safety (security, physical safety) features within Maslow's hierarchy of needs that must be fulfilled before an individual can pursue knowledge, understanding, or self-actualization (Maslow 1962, as cited by Strayhorn, 2012b, p. 18). As Strayhorn describes, these higher-order needs are central to the missions, goals, and desired outcomes for higher education, placing belonging essentially at the heart of what must occur for a student to be considered successful. Belonging is also described as a "fundamental motive, sufficient to drive human behavior" (Strayhorn, 2012b, p. 19), meaning that people will pursue a sense of belonging intentionally as they decide which groups to join and which traits of their peers they identify as central to their own sense of self.

Another important aspect of Strayhorn's definition of belonging is his assertion that sense of belonging takes on either heightened or decreased importance in certain contexts, at certain times, and among certain populations. Students from low-income families are often working through concerns stemming from intersectionality (the concept that systems of oppression or advantage connected to individual identities can work in concert and fluctuate for individuals who represent more than one disadvantaged identity) as they develop in young adulthood (Orbe, 2004). Concepts regarding the fluidity and shifting importance of belonging are worth investigating intentionally. In one such study, Strayhorn's finds that this fluctuating sense of belonging must be satisfied on a continual

basis and is not "fixed" or established once felt in a given circumstance. Another interesting finding in Strayhorn's scholarship is that a sense of belonging "engenders other positive outcomes" (Strayhorn, 2012b, p.22). In the context of college students, these positive externalities arising from belonging may include such observable outcomes as higher grades or persistence from year to year.

Strayhorn's conceptual model involves a given college student's pursuit of sense of belonging in various social spaces and contexts specific to the college experience: classrooms, residence halls, academic department, and campus at large. Although a college student's interaction with these spaces and contexts can involve the attempted satisfaction of other psychological or physiological needs, Strayhorn's model assumes that sense of belonging is negotiated and pursued in multiple interactions with those spaces and contexts, in an ongoing and continual basis. For the purposes of this study, I investigate cognitive sense of belonging through students' reported perceptions of peer support, college faculty and staff support, classroom comfort, campus comfort, isolation, and college access program support.

Strayhorn (2012b) also describes sense of belonging as affective, meaning important enough to drive decisions made about one's educational experience. The outcomes of the pursuit of belonging can be positive (e.g. involvement on campus, happiness in life, academic achievement, retention) or negative (e.g. stress, depression, academic struggles), and the outcomes of the pursuit of belonging can vary based on the context and spaces in which it is felt to varying degrees, as well as varying over the course of a given student's career. Students with a positive affective sense of belonging

are more likely to become and stay involved in campus life, report continued commitment to their academic goals, and feel a desire to persist toward eventual degree attainment (Strayhorn, 2012b).

Initial sense of belonging was found to be related to interactions with faculty, peer group interactions, peer support, and parental support during the first year of college (Hausmann et al., 2007). In a random assignment experiment that introduced a "sense of belonging intervention," sense of belonging had both direct effects on institutional commitment and indirect effects on the intention to persist as well as actual persistence decisions for college students (Hausmann et al., 2009). Thomas and Galambos (2004) also found that students' reported sense of belonging accurately predicted their general satisfaction with college life. A separate single-institution study involving first-year students found that students who felt a sense of belonging reported a perception of "valued involvement" on campus, predicated on establishing functionally supportive peer relationships that helped students meet the new challenges of college life, as well as a belief that faculty are compassionate and able to see and know the students as individuals (Hoffman, Richmond, Morrow, & Salomone, 2002).

One component of a given student's sense of belonging at his or her chosen postsecondary institution is shaped by the manner in which the student internalizes the culture of a campus and whether or not this culture fits the student. In the case of first-generation students who struggle to fit in, this sense can sometimes be described as "class-cultural discontinuity," (Lehmann, 2007) or the feeling that one's social identity as low-socioeconomic-status may be incompatible with the class-based culture of a

university campus. A recent study conducted at large, public research universities found significant gaps between factors related to both social integration and academic integration of working-class students when compared to middle and upper-class students (Soria et al., 2014). Another study at an ethnically diverse, urban, private university found that first-generation college students' relative lack of sense of belonging to the campus community at large "may lead to lower academic achievement, school dropouts, and less school involvement" (Williams, Karahalios, & Ferrari, 2013, p. 45). First-generation students have reported that they struggle to relate to students from other social classes (Lehmann, 2007; Pike & Kuh, 2005) and that they feel less integrated into the campus culture and less supported than their continuing-generation peers (Pike & Kuh, 2005). Continuing-generation students are often better able to manage the broad array of college challenges effectively, resulting in better adjustment to college life and higher retention and graduation rates (Choy, 2001).

Many first-generation college students negotiate multiple dimensions of their identity as young adults because they are more likely than their continuing-generation peers to be from low-income families and to be students of color (Jones, 2009). A study of personal narratives to examine intersectionality (the process of "negotiating multiple identities within multiple frames") suggests that the relative salience of first-generation identity varies widely among students (Orbe, 2004). The same collected narratives indicate that first-generation college students often feel their identity as first-generation students is not communal in the ways race, ethnicity, gender, sexuality, or other markers of identity can be (Orbe, 2004).

This phenomenon of reported discomfort can sometimes be experienced as "cultural mismatch," a situation in which the predominantly middle-class-focused models of higher education that value individual independence do not match with the interdependent models more often found in working-class communities with lower levels of educational attainment (Stephens, 2010; Stephens, Townsend, Markus, & Phillips, 2012). Stephens et al. (2012) found that working-class and first-generation students are more likely to be motivated to attend and complete college by a desire to improve their families and communities, whereas continuing-generation and high-income students are more likely to cite desires for personal advancement and independence from their families as motivation for college success. An experiment at a private university with approximately 1,400 first-year students, framing the experience of being a university student in terms of independence and self-sufficiency, produced increases in markers of stress and negative emotions as well as lower grade point averages for first-generation students (Stephens et al., 2012). At the same institution, an exposure to descriptions of college life that emphasized collective and interdependent themes eliminated the academic achievement gap between first-generation students and their more privileged peers without unfavorable results for continuing-generation students (Stephens et al., 2012).

The feeling of cultural discomfort for students from low-income and first-generation college-going families can sometimes be experienced as a need to become more autonomous in college (Ceballo, 2004) and form a separate identity as a college student, a feeling that "…magnified something they always knew deep within

themselves: They were different than many people in their families and communities" (Bryan & Simmons, 2009, p. 397). An active scholarly debate related to belonging for students from low-income families is whether they benefit more greatly from "breaking away" (London, 1989) from the habitus of their home communities, or whether carrying one's home and family cultures to and throughout college can result in better adjustment and sense of belonging (e.g. Stieha, 2010).

One specific aspect of the college experience for students from low-income families that has been frequently experienced as a mismatch is the interaction between faculty and students, an important system of interactions that can affect the feeling of academic belonging. There is an ever-present danger in college settings that interactions with faculty and staff may (even unintentionally) make students feel stigmatized by their low-income family background (Orbe, 2004). This stigma can play out through "stereotype threat," the concept that students might perform more poorly than expected on a given task when they are made aware of or reminded of negative stereotypes about the abilities of people who share characteristics with which they identify (Steele, 1997). These feelings of stereotype threat can be triggered during interactions with campus representatives that leave students from low-income families feeling more intensely "different" from other students, and therefore left with the feeling that they are less deserving of postsecondary academic success (Martinez et al., 2009). This "difference" can be seen as stemming from variations in cultural and social capital, because students with family histories of postsecondary success are more easily able to master the student role (Collier & Morgan, 2008). Mastery of the student role enables more frequent and

more confident interactions with faculty in positions to aid or inhibit students' academic growth (Kim & Sax, 2009).

Analysis of data collected from 58,000 students who participated in the 2006 University of California Undergraduate Experience Survey revealed that first-generation students often lag behind their continuing-generation peers in terms of frequency of research participation with faculty, communication with faculty outside of class time, and interactions with faculty during lecture class sessions (Kim & Sax, 2009). Continuing-generation and wealthy students generally also report greater satisfaction with their faculty interactions than first-generation and working-class students (Kim & Sax, 2009). This compound effect of greater dissatisfaction with less frequent contact further disadvantages first-generation and working-class students, who are more likely to report lower levels of academic engagement than their peers, and therefore a lesser sense of belonging (Pike & Kuh, 2005).

Students' racial or ethnic identities can also affect the sense of belonging they feel on campus. For example, a study of campus cultural climate at a large university revealed disparities by race and ethnicity in feelings of comfort and perceptions of racial-ethnic conflict on campus, pressure to conform to stereotypes, and treatment by campus faculty, staff, and teaching assistants (Ancis, Sedlacek, & Mohr, 2000). A study comparing the college transitions of White and Black first-generation college men found that racial identity is the source of added emotional difficulty for Black men. Black first-generation students are not able to apply the same social strategies of "being normal" to create

feelings of belonging amid a new habitus of upper-middle-class cultural expectations that their White first-generation classmates enacted with relative ease (Wilkins, 2014).

Class-based identities can also affect students' abilities to disclose and discuss stressful college experiences, as first-generation students report fewer opportunities to process college-based stress than their peers (Barry, Cho, Hudley, & Kelly, 2009). Due to the diversity of students who identify as first-generation or low-income, not all students face equally difficult integration experiences in college. Integration into the campus social climate at predominantly White institutions is often less challenging for White first-generation students than for their peers of other ethnic backgrounds (Woolsey & Shepler, 2011). In addition, interviews with students from low-income families revealed greater class-based discontinuities (feelings of intimidation, discomfort, inadequacy, deficiency, exclusion, and powerlessness) at elite colleges than state colleges (Aries & Seider, 2005), suggesting that college context may play a part in determining to what extent first-generation and low-income status are likely to be experienced as significant barriers.

Despite the statistical disadvantages associated with low-income and first-generation-college families, students in this category now make up the majority of all postsecondary enrollments, and the aggregate number of low-socioeconomic-status students is expected to continue rising in the near future (Engle & Tinto, 2008). This chapter has reviewed literature regarding the theories and frameworks of the student college choice process as well as the theories related to fit and belonging, two constructs that have proven to be influential in how a given student arrives at his or her chosen

college or university, as well as whether or not that student is likely to persist and eventually graduate. Given the importance of the college choice process and the importance of students' development of sense of belonging, I have investigated how sense of belonging might play a part in decisions about college persistence for students from low-income backgrounds. The next chapter describes the research conducted, including the conceptual framework, the research methodology, and the analytical approach.

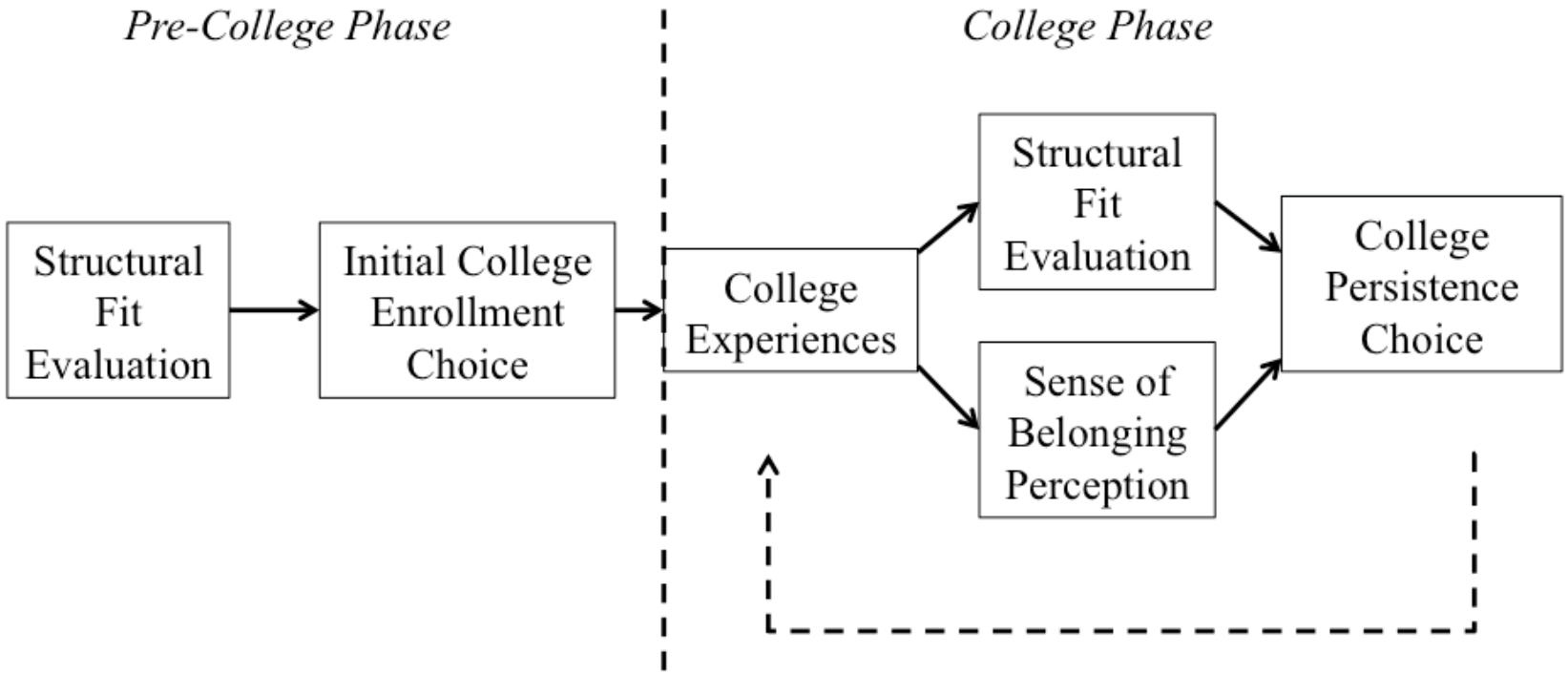
Chapter 3
Methods

This study examines the college persistence choices and decision-making processes of students from low-income families, as well as the college experiences associated with those decisions. This chapter discusses the conceptual framework for my mixed-methods study, introduces and describes the site and participants of the study, discusses the methodology used to answer the central research question, presents the survey instruments used, details the data preparation process prior to analysis, and gives an overview of the analytical approach I took to answer the research questions.

Conceptual Framework

The conceptual framework used for this study combines a) Perna's (2006) theory of student college choice which leads to a match between institution and student that I refer to as structural fit, and b) a theory of sense of belonging as described and operationalized by Strayhorn (2012). As a student goes through life in college, he or she has many experiences that contribute to perceptions of structural fit and sense of belonging. Many students also experience changes in their life circumstances, family situations, and other contextual conditions that can shift the balance of factors that lead to enrollment decisions in a given moment. I engage both theoretical concepts (structural fit and sense of belonging) in my analysis of the persistence decisions in a given college student's postsecondary career, considering also background and demographic variables. The conceptual framework for my study is presented as Figure 1.

Figure 1: Conceptual Framework



*Note: The vertical dotted line indicates the point after which the persistence choice cycle repeats until either program completion or a decision to stop out of higher education. The pre-college phase is outside the scope of this study

This framework may be used to understand the enrollment and persistence decisions made by an individual student. The dependent variable in this framework is the college persistence decision made by a student at a given point in time. The choice to pursue a postsecondary degree is not enacted as a single initial enrollment decision; it is more properly viewed as an ongoing series of distinct, but often interconnected, decisions. Students who have not yet completed their chosen program of study must decide whether or not to continue their enrollment in college on a term-by-term basis. As a given academic term progresses, students face many decisions that can impact their academic progress toward a degree: choosing to enroll for the coming term, applying or re-applying for financial aid, remaining in their chosen major or choosing another, etc. In order to better understand how students from low-income families persist toward degree completion, it is crucial to examine what choices they make regarding persistence at their current institution, transferring to another institution, or stopping out of higher education altogether. In this study, understanding persistence decisions involves analysis of two judgments made by students that might influence those decisions: judgment of structural fit with an institution, and perception of a sense of belonging at an institution.

The first group of independent variables in this study relates to structural fit between a student and a given institution. My approach to constructing variables to measure structural fit is derived from Perna's (2006) theory of student college choice, which focuses on students' enrollment decisions within an individually situated context. Perna (2006) developed a model of student college choice that explains how individual students' enrollment decisions are informed by the expected costs and expected benefits

of various postsecondary education options and result in a rational choice depending on context, knowledge, experience, and available information. These expected costs and expected benefits are derived from comparisons of demand for higher education and supply of resources, which vary by student due to situated context (Perna, 2006).

As discussed above, Perna's (2006) theory involves such factors as demand for higher education, supply of financial resources, expected benefits of postsecondary completion, and expected costs of postsecondary attendance. Demand for higher education is measured by a combination of academic preparation for college and academic achievement (Perna, 2006). Supply of resources is measured by family income and available financial aid (Perna, 2006). The expected benefits of postsecondary completion are measured by expectations of both monetary and non-monetary gains due to college attainment, and the expected costs of postsecondary attendance involve both the direct costs associated with college attendance as well as foregone earnings during the period of time in which a student is enrolled (Perna, 2006). When all the above factors are evaluated within the unique situated context a given student experiences, the outcome of this "rational choice" model can vary for students who appear to have similar demographic and academic characteristics (Perna, 2006). Perna asserts that in order for a student to enroll at a given institution (or remain enrolled at, as in the case of this study), he or she must determine that the perceived benefits outweigh the perceived costs.

Changes to structural factors related to academic, financial, and family context can shift the cost and benefit analysis of rational choice for a given student. I include these control variables in addition to the independent variables that measure fit and

belonging to gauge the extent to which the conditions that led to an initial college enrollment decision continue, in the sense of maintaining a benefit-to-cost balance and an ongoing structural fit to justify continued enrollment. If at least one of these factors has changed in such a way that perceived costs might outweigh perceived benefits, a student might not feel that his or her current institution continues to be an appropriate structural fit.

The second group of independent variables in the conceptual framework points to the developing sense of belonging between a student and his or her chosen institution. Strayhorn (2012) describes sense of belonging in college students as having both cognitive and affective properties. Strayhorn (2012) describes sense of belonging as "a basic human need and motivation, sufficient to influence behavior. In college, it refers to students' perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group or others on campus" (p.55). This combination of perceptions, stemming from experiences in the college environment, is described as cognitive sense of belonging (Strayhorn, 2012b). Cognitive sense of belonging has been found to develop and change throughout a student's academic career and has greater salience in certain contexts (Strayhorn, 2012b). Strayhorn (2012) describes affective sense of belonging as the motivation to act in a way that will maintain or improve one's sense of belonging, following from the cognitive perception of belonging in a student's current context. Sense of belonging has been shown to be a motivating factor strong enough to influence decisions and spur actions (Strayhorn, 2012), and so it might be considered along with

evaluations of structural fit as factors in the rational choice process of college persistence decisions.

Once a student has made an initial college enrollment decision, he or she must evaluate whether or not the expected costs and benefits of that rational choice process have played out as anticipated and project the expected costs and expected benefits of persistence toward the final academic goal. During the same period of time, a student's evaluation of his or her sense of belonging results from the experiences that student has while enrolled in college. College experiences and potentially shifting situated contexts influence judgments of both structural fit and sense of belonging.

Although the examination of various structural fit factors and decision-making processes to explain student college choice is a well-established area of study, the comparison of initial enrollment choices with subsequent persistence choices has been explored far less thoroughly. Previous research suggests that there is indeed a "nexus" between initial college choice and ensuing persistence decisions (St. John et al., 1996), and that students often apply similar thinking to their semester-by-semester or year-by-year persistence decisions (Blecher, Michael, & Hagedorn, 2002; Paulsen & St. John, 2002; St. John, 1990). To this point, much of the existing research categorized as related to student college choice has focused exclusively on structural factors and often specifically on financial factors. By contrast, in this analysis, the independent variables of central interest relate to structural fit and sense of belonging, examining what role these factors play in the college persistence decisions of students from low-income families.

The rationale for adding sense of belonging to the conceptual framework of rational choice based on structural fit is supported by a number of previous studies. First, Lehmann (2007) found that the lack of belonging was often reported as a central reason for stopping out of postsecondary education, even when other conditions for persistence had been satisfied. Sense of belonging has also been found to have both direct and indirect effects on persistence decisions of underrepresented students (Hausmann et al., 2007, 2009). Most prominently, Strayhorn's (2012) examination of sense of belonging has found that this construct can positively or negatively affect students of various racial, ethnic, and other minority groups within higher education. Strayhorn's studies demonstrating the value of sense of belonging for college students have involved many sub-populations among college students: Latino(a) students (Strayhorn, 2008c); gay students (Strayhorn, 2012b); students of color pursuing science technology, engineering, and mathematics fields (Strayhorn, 2012b); Black male students (Strayhorn, 2008a); graduate students (Strayhorn, 2012b); and students participating in clubs and organizations (Strayhorn, 2008b). This study seeks to extend these findings by testing to what extent the same cognitive and affective sense of belonging variables might be applied to college students from low-income families making subsequent college persistence decisions on their paths toward college completion.

Methods

This study was undertaken as a mixed-methods inquiry. According to Creswell, this methodology is based on the "assumption that collecting diverse types of data best

provides an understanding of a research problem" (Creswell, 2003, p. 21). This method of collecting multiple types of data from participants can also help to triangulate the results, strengthening the potential transferability of findings by approaching the research question from multiple dimensions (Creswell, 2003). In my study, I used a sequential mixed-methods design, beginning with a survey to gather quantitative data and completing the study with qualitative interviews.

Setting and Participants

Previous studies have demonstrated differences in college-choice processes and outcomes connected to family income and social class. They have suggested that students from low-income families are not only constrained in their feasible postsecondary options (Perna, 2006a) but are also more likely than their wealthy peers to make decisions based on structural fit factors (e.g. McDonough, 1997). In the interest of advancing knowledge regarding these inequities, this study focuses on students from low-income families who are commonly disadvantaged in their college choice processes. In order to test the presence and impact of considerations of sense of belonging for students from low-income families, I surveyed and interviewed students who are involved in a college access and success program. This choice enabled a focus on students from low-income families and reduced the likely impact of variation due to socio-economic status within a study, as family income determines eligibility for the services of these particular intervention programs (Perna, Rowan-Kenyon, Bell, Thomas, & Li, 2008).

Well-known federal access and success programs (e.g. Upward Bound, Talent Search, and Student Support Services; known collectively as TRIO) came about as the result of Economic Opportunity and Higher Education Acts of the mid-1960s (Swail, 2000). Upward Bound and Talent Search both focused on increasing college access for underrepresented students, while Student Support Services focused on retention and graduation for underrepresented students after their initial enrollment (Swail, 2000). Following the founding of successful federal programs, other institution-sponsored and stand-alone, non-profit programs have proliferated. Evaluations of these programs have shown that they can significantly improve low-income students' knowledge of the student college-choice process, even effectively eliminating college-knowledge gaps between students from low-income and high-income families at the ninth-grade level (Bell, Rowan-Kenyon, & Perna, 2009).

Access programs now have a diverse array of goals and approaches. Some focus on incentivizing participation in Advanced Placement curriculum for college preparation (Jackson, 2012), others aim to increase social capital through mentoring relationships with college students and college alumni (Ahn, 2010), and others explicitly aim to increase the selectivity of the colleges and universities to which their students apply and enroll (Avery, 2013). If more can be learned about the experiences of students from low-income families and their college choice processes, then interventions could be designed and enacted by access programs to improve postsecondary outcomes.

The college access and success program chosen for this study is College Possible, an independent non-profit organization founded in St. Paul, Minnesota in 2000. In

addition to the original Minnesota site, College Possible sites now include Milwaukee, Wisconsin; Omaha, Nebraska; Portland, Oregon; Philadelphia, Pennsylvania; and Chicago, Illinois. This program is affiliated with AmeriCorps, wherein national service members take on the role of "coaches" who work directly with students. Program participants typically have cumulative grade point averages between 2.2 and 3.8 on a 4.0 scale when they apply to join the program as high school sophomores, and all have family incomes near the poverty line, with College Possible essentially using free or reduced lunch eligibility as a financial criterion for entry into the program. A great majority of student participants are first-generation college aspirants, and most are members of ethnic or racial groups underrepresented in higher education. In many College Possible sites, the organization attracts a strong representation of immigrant, refugee, and new-citizen participants.

College Possible has designed its curriculum implementation around what it refers to as a "near-peer" coaching model. Current program participants are matched with AmeriCorps coaches who are young college graduates, and the resulting personal relationships are effective in part because the coaches are close in age to their students. College Possible's near-peer coaching model continues through the completion of a student's college degree, and the program has an explicit goal of Bachelor's degree completion for its students. Some students from each high school graduating class attend community and technical colleges, due either to academic or financial restrictions that make initially attending a Bachelor's degree-granting institution unlikely. Other students attend community and technical colleges because their original Bachelor's degree

aspirations have shifted toward career-focused two-year programs. At the time of this study, more than fourteen years of program delivery resulted in an impressive 98 percent of College Possible high school graduates who had been accepted to at least one higher education institution. Approximately 70 to 75 percent of an average high school graduating cohort in the program attended a four-year school initially. The cumulative college graduation rate of College Possible was roughly 54 percent, approximately mirroring the national rate for college completion by age 24, regardless of family income, for all students who enroll initially at a Bachelor-granting institution.

College Possible follows a college-access philosophy of helping students discern their best option and does not enter into enrollment quota partnerships with any postsecondary institution. As a result, the program's students attend colleges and universities across the country.

Included in the high school program curriculum of College Possible are sessions regarding how to make a well-considered initial college enrollment choice. Much of the material relates to understanding and evaluating financial aid packages, in relation to the "desirability" of an available college option. Although many of the near-peer coaches help students talk through their enrollment decisions, the concepts of structural fit and sense of belonging are not included as standardized or formal parts of the enrollment decision training of coaches. The extent to which a coach influences enrollment decisions of his or her students varies widely, and the organization has no formal stance regarding the extent to which a coach is expected to guide a student through initial enrollment decisions. This guidance is typically carried out through an intentional process of

information-gathering for students, with the hope that students will be empowered to make well-informed choices for themselves with regard to projected costs and benefits.

The AmeriCorps college coaches who mentor College Possible college students are trained to help students solve problems as they come up and focus on logistical tasks necessary for persistence such as course registration and financial aid renewal. Due to the personal relationships that sometimes form between students and coaches, students may experience a sense of belonging with the program, with other College Possible participants, or with the college or university. This sense of belonging may be impacted by this combination of supports. The survey used in this study includes an item to measure the extent of the College Possible program's influence on a student's reported sense of belonging.

As a matter of full disclosure, I was employed at College Possible as the Director of College Success for the Minnesota site at the time of the survey and subsequent interviews. My affiliation and familiarity with the program and curriculum aided in the construction of a survey to be completed by program participants and also facilitated the use of e-mail distribution lists to invite student participation in the research. Student participants' status as college students or program participants was not affected by their individual decisions to participate or not to participate in the study, as the subject matter of this inquiry was not related to the curricular content of either their academic courses or the program's coaching-support model.

Instruments

Quantitative data were gathered through a questionnaire, with items chosen to measure aspects of structural fit and sense of belonging. Measures of structural fit and sense of belonging were then considered in light of a student's reported persistence hopes and plans, with demographic and other background variables used as controls and points of descriptive comparison. The survey instrument is included as Appendix A, and a chart showing the relationship between concepts and measures is included as Appendix B.

Questionnaire Items

Examining what role fit and belonging play in college persistence decisions requires investigating factors related to the relative presence of cognitive sense of belonging, the decisions motivated by "affective sense of belonging" (Strayhorn, 2008c), the relative importance of structural and contextual factors in that decision-making process, and reported enrollment decision behaviors. With the rational choice model tied to structural fit components already well tested in the literature (e.g. D. W. Chapman, 1981; Coleman, 1988; Hossler, Braxton, & Coopersmith, 1989; Hossler & Gallagher, 1987), this study contributes to the field by purposefully examining factors related to sense of belonging in the process of student college choice that takes place between initial enrollment and degree or program completion. Measures of sense of belonging in my study include students' perceptions of the following items: general feeling of belonging on campus; the extent to which they would be missed if they left college; connections to their peers; familiarity with campus; the extent to which they matter to

others; the extent to which others depend on them; and the extent to which they feel cared about by college faculty, college staff, and College Possible coaches.

Variables and Measures

The dependent variable for this study is the student's current persistence decision. The first student variable recorded on the survey was whether or not a student has graduated from college. If so, the student stated if he or she has graduated from a two-year (Associate's degree) program or a four-year (Bachelor's degree) program. In the case of two-year program graduates, the student indicated whether or not he or she was interested in pursuing a Bachelor's degree. Students who had not yet graduated were then asked to report both their desires and plans for the coming academic term. This distinction gave opportunities for students to report if and when there is a difference between what they might prefer to do and what they may feel the need to do regarding their persistence decision. Students who had graduated, but were invited to participate due to actively maintained email addresses on file, were not included in the analyses.

The persistence options given to participants are the following: remain enrolled at the current institution until graduation, transfer to a different institution, transfer to a different institution temporarily but later return to the current institution, leave higher education, leave higher education but return to the current institution, and leave higher education but return to a different institution. Each of these options was given for students' planned actions and preferred actions. The three options that describe possible multi-step decisions (e.g. leaving higher education, then returning) were used only in

descriptive analyses, and the choice options were compressed to simple stay or leave measures for planned and desired enrollment.

Independent variables related to structural fit appear in a section of the survey dedicated to college experiences and expectations. They have been chosen for their particular relevance to students from low-income families as well as relevance to Perna's (2006) model of student college choice. The first measures of structural fit have to do with possible changes in the conditions that led to initial enrollment at the student's current institution. If conditions have changed since initial college enrollment, these background and situated-context factors related to rational choice may have influence over whether or not continuing enrollment remains a realistic choice. These factors are related to context and habitus, demand for higher education, and supply of resources, all factors in Perna's (2006) rational choice model related to structural fit. For example, if a student has changed his or her academic major or intended career, it is possible that transferring to another institution may be necessary to fulfill these new goals. Items regarding reported average grades and level of satisfaction with academic performance in college follow, and these measures have been found to be significant predictors of college persistence, in that students who perform at or above the level they expect have been found to be more likely to persist (Cabrera, Nora, & Castañeda, 1993).

Items regarding family responsibilities and family support of a student's college choice are the last in the section regarding past academic year experiences, and both factors are related to rates of college completion. Emotional and financial support from families and a relative lack of family responsibilities that could compete for a student's

time have been found to influence persistence decisions (Nora, 2004; Spradlin, Rutkowski, Burroughs, & Lang, 2010).

The next section of the questionnaire is dedicated to expectations about continuing college enrollment, and all items have to do with the expected monetary and non-monetary benefits of continuing in college, as both have been found important in student persistence decisions (McDonough et al., 1997). These non-monetary costs and benefits are considered here in addition to the expected college financial costs (Baum & Payea, 2003) and foregone earnings during college attendance that make up the central cost-versus-benefit analysis in Perna's (2006) model. Items regarding the sufficiency of financial aid to sustain continued enrollment (Nora & Cabrera, 1996; St. John, 1990) are also included in the survey to complete the core elements of Perna's (2006) college student choice model, applied to persistence decisions instead of initial college enrollment decisions.

The independent variables related to sense of belonging are derived from previous studies (Hoffman et al., 2002; Strayhorn, 2008b, 2008c, 2012b). Measures include sub-scales related to sense of belonging. The first set of variables relates to cognitive sense of belonging or the perceptions a student has following various experiences as a college student. These experiences lead a student to feel, to some degree, a sense of belonging and valued participation at their chosen college or university. Hoffman et al. (2002) identified and tested seven sub-scales of interest related to sense of belonging, but this study uses the three subscales found to be the most predictive of sense of belonging: perceived academic and social support from peers, perceived support from college faculty

and staff, and perceived classroom comfort. A measure of the influence of College Possible program participation in development of institutional sense of belonging is included because the participants in this study are all students in the College Possible program.

The next set of independent variables is related to affective sense of belonging, an individual's emotional and behavioral reaction to perceptions of the presence or absence of sense of belonging at a college or university. The specific variable of interest in this study is the student's reported desire to persist at or withdraw from his or her current institution. In an attempt at both conceptual clarity and relative survey instrument brevity, potential survey items that tested sense of belonging in relation to other factors in other studies (e.g. Morrow & Ackermann, 2012) have been excluded. Items regarding sense of belonging have been tested in previous work by Hoffman et al. (2002) and Strayhorn (2012b).

Control variables included in this survey are related to demographic characteristics of students and have been shown to impact college persistence and completion. For example, married students have been found to be less likely to persist than single students (Martin Lohfink & Paulsen, 2005); first-generation students have been found by many to be less likely to persist and graduate than students with college-graduate parents or guardians (Adelman, 2006; Ishitani, 2006; Martinez et al., 2009; Niu & Tienda, 2013); students who work more than 20 hours each week and students who live at home are less likely to persist (Bozick, 2007); students from low-income families who spend less time outside class on academics are less likely to persist (Engle & Tinto,

2008); students older than 24 have lower college completion rates (Shapiro et al., 2013); and family support and family responsibilities outside of college have been found to impact persistence and completion (Spradlin et al., 2010). Other demographic variables such as class standing in college, transfer student status, racial or ethnic identity, gender identity, sexual orientation, and language or languages other than English spoken are included for descriptive purposes, as well as for their potential value as control variables.

Items regarding college experiences are based loosely on other surveys such as the *College Student Experiences Questionnaire* (Gonyea, Kish, Kuh, Muthiah, & Thomas, 2003; Hu & Kuh, 2003; Pace, 1984), *Your First Year College Year* study (Keup & Stolzenberg, 2004), and the *Diverse Learning Environments* survey (Hurtado, Griffin, Arellano, & Cuellar, 2008; Hurtado & Guillermo-Wann, 2013). Demographic questions and other personal experiences are standard items found commonly in surveys of this nature. A small number of newly created survey items regarding experiences with College Possible staff and peer students were inspired by the sections of Hoffman et al.'s (2002) study pertaining to faculty and staff of the postsecondary institution.

Optional Interviews

The final item on the questionnaire invited participants to volunteer for an interview. These interviews were intended to gather more data regarding students' development of sense of belonging and its possible relationship to persistence decisions. Data from the interviews were used to give context to the analysis of quantitative data, as well as to investigate other aspects of both sense of belonging and persistence decision-making processes that may not have been fully captured by survey items or were not

anticipated in my initial research design. The interviews were semi-structured to allow participants' reflections on their lived experiences to remain the focus of the conversations. The full interview protocol is included as Appendix C.

The interviews began with general questions about what types of moments and experiences have been important to students, helping the students frame the conversation within their ongoing life in college before probing more deeply regarding their sense of belonging as college students. I also asked how each participant defines belonging and whether or not he or she feels a sense of belonging in college. I asked what aspects of their college experiences make them feel that they do or do not belong and what other factors might play a role in their decisions regarding persistence.

Data Collection

This research was designed as a mixed-methods study, with individual interviews following the large-scale survey. After my proposal was approved, I obtained written permission from College Possible to include its college students in this research. The study was granted "Exempt from Review" status by the University of Minnesota Institutional Review Board: Human Subjects Committee on January 6, 2016. The email granting permission for the study is included as Appendix D. No potential participants were contacted before the Institutional Review Board: Human Subjects Committee granted approval for the study.

Survey

Survey data were collected from participants via web-based surveys for ease of access and anonymity of participants (L. Cohen, Manion, & Morrison, 2007). Web-based surveys "have the potential to reach greater numbers of participants" (L. Cohen et al., 2007, p. 226) and can be accessed directly through the host service site or through links sent via email. Web-based technology has also been chosen as the survey method due to the comfort current college students have with technology-based platforms as well as the convenience of survey access in multiple locations on multiple technology platforms, with few time constraints (L. Cohen et al., 2007). This web-based survey format also allows for logic to be built into the survey, making certain questions or options in the survey available as appropriate based on earlier survey item responses. The survey was created and maintained through Qualtrics, an on-line survey hosting service. The Qualtrics questionnaire software allowed for an email distribution list to be created, enabling anonymous follow up with initial non-respondents.

I began my study with a survey to examine how student judgments of structural fit and sense of belonging impact their reported persistence hopes and plans. College Possible maintains a distribution list of its college student participants through a student records database called "CoPilot." Program leaders gave me permission to contact students via this email distribution list. Using this distribution list, individualized links to the survey were sent via email to 6,033 potential participants. After sending students the initial invitation to participate, I sent three follow-up emails at one-week intervals to those who were initially invited but had not yet responded in an attempt to increase

participation rates. Follow-up messages were sent to both invitees who had not yet responded, and those who had begun but not yet completed the survey. Of the 6,033 individual invitations sent, 262 were undeliverable due to invalid email addresses. Upon confirming these initially invalid email addresses with the CoPilot database, I identified 20 students among the 262 undeliverable first attempts who had secondary email addresses on file. These 20 students whose initial invitations went undelivered were sent invitations at their secondary email addresses. As a result of the invalid and failed delivery attempts, a total of 5,791 students received invitations to participate. Any students not currently enrolled in college (having either recently graduated or currently un-enrolled) who participated by completing the survey were not included in the analyses for the purposes of this study. Throughout the time the survey was open and able to be completed, College Possible coaches occasionally encouraged participation through communication with their cohorts of students, utilizing such methods as face-to-face conversation, email, social media, phone calls and text messages.

The survey link was available from February 21, 2016 through the end of April, 2016. It was closed when five days had passed without a new response. According to the individual tracking on the Qualtrics platform, 939 students clicked from the email link to the consent page of the survey, 853 consented to participation and began the survey, and 692 of those who began the survey completed it and were considered for the analysis. Based on the number of invitations received by email, this survey had an 11.9 percent response rate (692 out of 5,791). Based on the number of students who clicked on the email invitation, the only method I have of verifying receipt of the email invitations, 73.7

percent (692 out of 939) of the students who read the email and clicked through to the first page of the survey completed the instrument.

From late March through late April 2016, I conducted 14 interviews with students who signaled their interest on the web-based questionnaire. Each call was audio-recorded, and then transcribed to ensure accuracy. Of the 692 students who completed the survey, 280 volunteered to be contacted for an interview. Students were selected purposefully in an attempt to equally represent men and women in their first and second years of college attendance, the years during which persistence decisions are most often made. Male respondents were relatively over-sampled in hopes of gender balance in completed interviews, as 229 women and 51 men expressed interest and volunteered their email addresses for me to contact them. I selected and contacted 65 students via the personal email addresses they volunteered on the questionnaire. Students were contacted between one and three times each. Of the 65 students I contacted, 17 responded and scheduled interviews. Among those who scheduled interviews, 14 students completed interviews. The remaining three scheduled students did not answer their phones at the scheduled times and did not respond to follow-up attempts to reschedule.

During each interview, I kept a blank copy of the semi-structured protocol available, both to write down notes and to ensure that the full protocol was covered during each interview. The interview notes were numbered in the order the interviews were conducted, to ensure ease of matching the recordings to the transcripts and notes later. The protocol copies contained the students' names and contact phone numbers, so that interviews could take place from multiple locations and were not dependent upon

computer access. As the 14 individual interviews were completed, I transcribed each one to ensure accuracy of potential quotes, as well as to improve subsequent interviews.

Survey Data Preparation

When the survey was closed, the original data file was downloaded from Qualtrics and saved in both comma-separated values (CSV) file and Excel file formats, for loading into Statistical Package for the Social Sciences (SPSS) software designed for quantitative analysis. The first data adjustment made was to create a new variable that duplicated the students' entries of their year of graduation from high school. The original question had a number of typographical errors that I corrected by verifying the graduation dates of students via the email addresses matched with each response, with all correct data verified by College Possible's database and program records. In the responses for each student's current (or most recently attended) institution, there were a number of different ways the same institutions were listed, due to the open-response text box. I created a new variable for "current institution" and entered a standardized version of the name for each institution listed in the survey. This standardized naming was later used to match each institution with classifications created by the Carnegie Foundation. I downloaded the data set on classifications from the Carnegie Foundation website, created variables for admission selectivity, public versus private control, traditional non-for-profit or proprietary institution, size of institution, degree level or levels offered, geographic setting of institution, and residential nature of the institution.

I then added an identification number to each respondent, as well as a variable to indicate if the survey was completed. The downloaded data file from Qualtrics included

853 total responses, of which 692 were coded as complete. I also removed all potentially identifying information from each response, including email address, start and finish date of the survey, internet provider address for each response, and email addresses for interview participant volunteers.

The next variable I edited for accuracy and clarity was preferred racial or ethnic identity. I examined each response in the open-text entry option, using standard response options where possible. For example, students who entered "Hmong" or "Hmong American" were coded as Asian for the purposes of analysis. When each individual respondent's self-reported race or ethnicity was clarified, I then created a multi-race variable to denote those respondents who had indicated multiple categories.

In the initial analysis, a number of variables were identified as having too many response options to result in significant analyses. These changes were anticipated, and the original survey construction was chosen intentionally to allow for respondents to find a category that more specifically described their situation, rather than forcing the compression of categories into the original questionnaire. For example, relationship status included the following options: single and never married, married or partnered, separated, divorced, or widowed. In order to have simplified categories for analysis, these five original responses were condensed into three responses: Never Married, Partnered, and Separated. Similar response compressions were then coded for the following items: respondent's on-campus or off-campus living situation, gender, and sexual orientation. The items regarding structural fit and sense of belonging were combined into scales through factor analysis. The full analyses are presented in Chapter Four.

Interview Data Preparation

In preparing interview data for subsequent analysis, I transcribed each interview verbatim. I transcribed the original audio recordings into text in an Excel spreadsheet. In this spreadsheet, each unit of speech occupies one row. This row separation allowed for my questions to be separated clearly from student responses. The spreadsheet features columns for analytical sorting and ease of comparison between and among students' responses to the same question. The first column indicates the speaker (myself or the participant). The second column contains an index number for each question/answer. The third column contains the text transcription. The fourth column contains occasional markers of the time stamp during each conversation for ease of resuming transcription and checking accuracy of key passages as identified in the analyses. The fifth column indicates by number the question being asked and answered in alignment with the original protocol.

Following the completion and transcription of interviews, I grouped responses to each of the protocol questions or prompts. This step involved copying and pasting the relevant cells from the full transcript, and pasting those cells into the sheet for each question and response. Separate transcripts were also created in this same manner for each respondent, for ease of reading and re-reading each individual's responses during coding and analysis.

Analytical Approach

My analysis of collected data took three forms: descriptive analysis of survey data, multivariate analysis, and qualitative analysis of interview transcripts. Using

multiple analytical techniques helped improve the reliability of findings through triangulation (Creswell, 2003), as well as providing a richer and more robust set of findings regarding the influence of sense of belonging on college persistence decisions.

In addition to basic descriptive analysis, multivariate analyses of the quantitative data included crosstabs, means tests, regressions, and logistic regressions. Analytical techniques were chosen based on the type of data being compared, with different tests chosen based on the categorical or continuous nature of the data being analyzed at each step. A full description of the results of these various statistical procedures is included in Chapter Four.

Before analyzing the interview transcripts, I made a self-reflective journal entry describing my preconceptions, desires, connection to the research, and initial thoughts about the process of interviewing students. This step was followed by multiple readings of each participant's individual interview, which I printed for ease of reading, note taking, and eventual highlighting. The first pass with each interview involved taking notes in the margins regarding key themes, thoughts, connections, and discoveries. Following three readings of a given interview transcript, I paused and wrote my thoughts and observations regarding the key moments in each interview, the main themes expressed by each participant, and how that student had generally described experiences so far as college students.

Six primary themes emerged from my initial readings and re-readings of interview transcripts led to my central coding themes, and I highlighted the printed transcripts accordingly. To ensure data stability and prevent the potential loss of original

coding data due to physical paper degradation, loss, or destruction, I duplicated the physical highlighting in the original Excel transcription file using the highlighting function. Each theme was then given its own tab in the Excel document, with relevant segments of all interviews highlighted for ease of comparison.

The final aspect of data analysis involved coding and analysis of qualitative data gathered in the optional semi-structured interviews. I reviewed transcripts, searching for commonly emerging themes related to developing sense of belonging, college enrollment decision-making processes, and other unanticipated conversation themes that arose. I used a phenomenological approach that seeks to describe the lived experience of participants (Creswell, 2003) so as to approach "an account that tells the truth about some objectively described state of affairs" (Eisner & Peshkin, 1990, p. 97). Although qualitative analysis does not seek to uncover universal truths, careful analysis of the described experiences and perceptions of participants helps bring validity to the research (Eisner & Peshkin, 1990). I chose this combination of analytical approaches to increase the likelihood of transferrable findings (Creswell, 2003).

Chapter 4
Findings

This chapter presents the findings from both the survey and the interviews. First, I present descriptive analyses of the dependent, independent, and control variables from the quantitative survey. The rest of the first section of the chapter examines the results of regression analyses of the data. The second section of this chapter discusses the findings of the interviews I conducted with 14 students. The chapter ends with a combined analysis of the quantitative and qualitative findings.

Descriptive Analyses of Key Variables

In this section, I describe the distributions of responses to the dependent variables in this study, the items regarding college persistence plans and desires. I then present descriptive analyses of structural fit, sense of belonging, institutional characteristics, and participant demographics.

College Persistence Choice

The dependent variable is participants' desires and plans for college persistence. In separate questions, students reported whether or not they would like to and whether or not they planned to do the following: attend their current college or university through graduation, transfer either temporarily or permanently to another institution, stop out of college temporarily and return later, or leave college altogether. The response options were the same for both questions of students' desires and plans for college persistence.

Students reported not only what they would like to do, but also what they were planning to do. This pairing of items was designed to explore if there is any measureable difference between their desires and plans that might indicate choice sets constrained by circumstance or context.

The distribution of responses to these two questions is displayed in Table 1. Of note is the difference in reported desires and plans for the following term. In raw numbers, more students report wanting to leave or transfer from their current institution than planning to leave or transfer. Comparing the responses to these persistence plans and desires shows a clear pattern. These differences by individual student response are displayed in Table 2. Some individual participants answered either the persistence desires or enrollment plans item without answering the other, and so there is a missing-value effect. This effect plays out in occasional discrepancies between the totals in Table 1 and the totals in Table 2.

Most students report planning to do what they report they would like to do. The overall trend in both desires and plans is clear: most students report a desire to continue in college, with only seven students reporting a desire to leave college altogether and none reporting that they plan to leave college altogether. A greater number of individual students reported planning to persist at their current institution than reported a desire to do so. A greater number of students report wanting to graduate after the current academic term than report a plan to do so. In addition, a greater number of students report wanting to transfer immediately than those who report planning to do so.

Table 1: Distribution of Students' Reported Desires and Plans for Their College Persistence in the Next Academic Term

	Desires		Plans	
	n	%	n	%
a. Graduate at the end of this term	70	11.1	64	10.2
b. Persist at current college until graduation	456	72.6	484	77.1
c. Transfer immediately to another college	74	11.8	65	10.4
d. Transfer now and later return to current college	5	.8	9	1.4
e. Stop out temporarily and later return to current college	11	1.8	2	.3
f. Stop out temporarily and later transfer to another college	4	.6	2	.3
g. Leave college altogether	7	1.1	0	0.0
h. (Blank – did not answer)	1	.2	2	.3
Total	628	100.0	628	100.0

Table 2: Students' Reported Desires and Plans for Their College Persistence in the Next Academic Term

	Persistence Desires								
	Graduate	Persist	Transfer Immediately	Transfer and Return	Stop Out and Return	Stop Out and Transfer	Stop Out Permanently	*Total Number*	*Total %*
Persistence Plans									
Graduate	61	2	1	0	0	0	0	*64*	*10.2*
Persist	4	439	24	1	7	2	6	*483*	*77.3*
Transfer Immediately	3	10	46	3	2	1	0	*65*	*10.4*
Transfer and Return	1	4	2	1	1	0	0	*9*	*1.4*
Stop Out and Return	0	0	0	0	1	1	0	*2*	*.3*
Stop Out and Transfer	0	0	1	0	0	0	1	*2*	*.3*
Stop Out Permanently	0	0	0	0	0	0	0	*0*	*0*
Total Number	*69*	*455*	*74*	*5*	*11*	*4*	*7*	***625***	
Total %	*11.0*	*72.8*	*11.8*	*.8*	*1.8*	*.6*	*1.1*		*100*

To simplify and clarify subsequent analyses, I collapsed the initial choices regarding persistence into four indicator variables. The first indicator variable is "plan to leave," an indication that a student does not intend to be continuously enrolled at the current college through graduation. The second dependent variable is "plan to leave this institution," an indication that a student does not intend to graduate from the current institution, but might stay enrolled continuously by transferring elsewhere. The third dependent variable indicates students who "want to leave," meaning that they did not prefer to persist through graduation at their current college. The final dependent variable identifies students who "want to leave this institution," an indication that a given student would prefer to leave college or would prefer to graduate from a different college or university than the institution they currently attend.

The distributions for the indicator variables are displayed in Table 3. Collapsing the response categories brings the persistence desires and plans of the respondents into even clearer focus. Most students want to persist in college, and most students plan to persist in college. As seen in Table 1 and Table 2, the collapsed responses in Table 3 show a pattern of a greater percentage of students wanting to leave than planning to leave.

Table 3: Indicator Variables for Combined Categories of Students' Reported Desires and Plans for Their College Persistence in the Next Academic Term

	Yes	No
Want to leave	16.1%	83.8%
Want to leave institution	13.5%	86.3%
Plan to leave	12.4%	87.3%
Plan to leave institution	10.7%	89.0%

Fit and Belonging

The independent variables in this study were constructed from Likert-scale items related to structural fit and sense of belonging at students' current institutions. Each item has a four-point response scale, from strongly agree (3) to strongly disagree (0). The survey included 10 items regarding fit and 11 items regarding sense of belonging. The distributions of responses to these items are displayed in Table 4 and Table 5

Approximately 48 percent of respondents agree or strongly agree that it will take them longer to graduate than initially anticipated. In the distributions of structural fit measures displayed in Table 4, approximately 83 percent of respondents disagree or strongly disagree that their college studies will take less time than initially anticipated. Only 31 percent of respondents agree or strongly agree that they might have to make a choice between financially supporting their families and continuing in college, and 44 percent report being concerned about missing potential income due to staying enrolled in college. There is a difference between items asking whether or not students would choose the same institution again and items asking if they would recommend the college to others. Overall, 90 percent of students would recommend their college to others, but only 69 percent of students report they would attend the same institution they currently attend if they could start over again.

For each measure of sense of belonging, a majority of respondents either agree or strongly agree with each statement. The first item was the statement "I feel a sense of belonging on campus," without any further definition of the term. Seventy-nine percent of respondents agree or strongly agree with that statement. The two items with the

highest percentage of agree and strongly agree responses measured familiarity with the campus and surrounding area (93 percent) and feeling cared about by College Possible coaches (91 percent). A higher percentage of students agreed or strongly agreed that they feel connected to other students who share their values (81 percent) than feel connected to other students who share their interests or identity (77 percent and 74 percent, respectively). The items with the smallest percent of agree or strongly agree responses are: “My friends would miss me if I left college” and “Others depend on me at my college,” (68 percent and 55 percent, respectively).

Considering both the fit and sense of belonging responses, participants in this study generally report both a structural fit and a sense of belonging with their institutions. With the exception of the items regarding length of time to graduation compared to initial expectations, all the items had a majority of positive responses. On average, participants are happy with their enrollment choices, they expect their chosen academic programs to help improve their employment prospects, they feel connected to other students, they feel cared about by faculty and staff on campus, and they feel that they matter to others at college.

Table 4: Distributions of Structural Fit Responses

Structural Fit Items	Strongly Agree	Agree	Disagree	Strongly Disagree
It will take me longer to graduate than I had planned.	16.7 %	31.5 %	35.2 %	16.2 %
It will take me less time to graduate than I had expected.	2.9	12.7	62.1	21.2
I may have to choose between financially supporting my family and going to college.	7.8	23.2	51.8	16.1
If asked, I would recommend this college to others.	31.7	58.9	7.5	1.1
People in my community are counting on me to do well in college.	39.8	46.7	11.0	1.1
I expect that completing my academic program will help me get a better job.	60.4	36.3	2.7	0
I expect that completing my academic program will help me earn more money.	56.7	36.9	5.4	0.2
I expect that staying in college until I graduate will help me enhance my personal and social networks.	52.7	41.9	4.1	0.5
I am concerned about missing current potential income due to staying in college.	11.0	32.5	46.3	9.6
If I could start over again, I would go to the same institution I am now attending.	28.5	40.0	24.5	6.2

Table 5: Distributions of Sense of Belonging Responses

Sense of Belonging Items	Strongly Agree	Agree	Disagree	Strongly Disagree
I feel a sense of belonging on campus.	18.5 %	60.5 %	17.2 %	3.3 %
My friends would miss me if I left college.	18.0	49.5	26.6	5.3
I feel connected to other students at my college who share my interests.	17.2	59.7	18.9	3.5
I feel connected to other students at my college who share my identity.	19.4	54.8	20.9	4.3
I feel connected to other students at my college who share my values.	19.1	62.1	15.6	2.5
I am familiar with the campus and the surrounding area.	34.6	58.8	5.6	0.2
I feel that I matter to others at my college.	14.0	57.5	23.6	4.3
Others depend on me at my college.	10.4	44.7	38.5	5.4
I feel cared about by a faculty member at my college.	19.6	63.1	14.3	2.2
I feel cared about by a staff member at my college.	19.1	62.1	15.4	2.4
I feel cared about by my College Possible coach.	31.8	59.6	6.7	0.8

I derived scales related to fit and belonging from factor analyses for use in regression analyses. Table 6 presents the results of a factor analysis of structural fit items. This table shows the rotated component matrix and the four factors that emerged from the factor analysis. The first factor is the anticipated benefits of college completion. It has an alpha reliability of .719. Factor one includes such as items as whether or not students anticipated earning more money and improving their personal networks as a result of completing their college degrees. The second factor is low financial worry related to college attendance. This factor has an alpha reliability of .564. It includes such items as anticipation of having to choose between supporting their families and paying for college, and the extent to which attending college means sacrificing potential income. The third factor is the student's satisfaction with the initial college choice. This factor has an alpha reliability of .634. It includes two items measuring if a student would choose the same college again if given the chance, and if a student would recommend the college to others. The fourth factor is the extent to which a student has less time to graduation than originally estimated, with an alpha reliability of .411. This factor includes opposing questions asking whether a student projected more or less time to college graduation than originally anticipated. The resulting scale indicates to what extent a student projects their future college graduation as happening sooner, or with less total time spent in college, than initially expected.

The survey item "People in my community are counting on me to do well in college" did not clearly load with any of the four identified factors in the analysis. This

item was also conceptually distinct from the others related to structural fit and was not included in any of the structural fit scales.

To retain conceptual clarity, I recoded the three items that were worded such that a response of "agree" or "strongly agree" would indicate a concern, problem, or worry. The three items framed this way were the two items related to low financial worry and the item stating "It will take me longer to graduate than I had planned." This recoding created scale items with shared positive orientation for more clear interpretation wherein each of the scales related to structural fit carried a larger value for positive responses to the included items.

I also performed a factor analysis on the items regarding a student's sense of belonging in college. The results of the rotated component factor analysis appear in Table 7. This table presents two factors that emerged from the factor analysis. The first factor is the overall sense of belonging a student feels due to peers and the campus environment in general. This first factor has an alpha reliability of .886. Items in this factor include the extent to which respondents share interests and values with peers, and the extent to which respondents feel that they matter to others and are depended upon by others at their college. The second factor was sense of belonging related to relationships students had formed with adults on campus. This second factor has an alpha reliability of .738. The second sense of belonging factor includes to what extent students feel cared about by faculty, staff, and College Possible coaches.

Table 6: Rotated Component Matrix from Factor Analysis of Fit Items

	1	2	3	4
Anticipated Benefits of College Completion (alpha = .719)				
I expect that completing my academic program will help me get a better job.	**.866**	-.024	.050	-.041
I expect that completing my academic program will help me earn more money than I would have without the degree/certificate.	**.855**	-.031	-.018	.009
I expect that staying in college until I graduate will help me enhance my personal and social networks.	**.615**	-.177	.281	.062
Low Financial Worry Related to College Attendance (alpha = .564) – *both items reverse coded for use in scales*				
I may have to choose between financially supporting my family and going to college.	-.081	**.808**	.019	-.020
I am concerned about missing current potential income due to staying in college.	-.048	**.747**	-.086	.018
Satisfaction with Initial College Choice (alpha = .634)				
If asked, I would recommend this college to others.	.144	**.**002	**.823**	.006
If I could start over again, I would go to the same institution I am now attending.	.032	**-.**097	**.848**	.031
Less Time to Graduation Than Originally Estimated (alpha = .411)				
It will take me longer to graduate than I had planned. (*reverse coded for use in scales*)	-.057	**.**526	-.036	**-.635**
It will take me less time to graduate than I had expected.	.000	**.**133	.040	**.897**

Table 7: Rotated Component Matrix from Factor Analysis of Sense of Belonging Items

	1	2
Sense of Belonging Due to Campus Environment (alpha = .886)		
I feel a sense of belonging on campus.	**.535**	.446
My friends would miss me if I left college.	**.770**	.137
I feel connected to other students at my college who share my interests.	**.832**	.210
I feel connected to other students at my college who share my identity.	**.821**	.190
I feel connected to other students at my college who share my values.	**.820**	.231
I am familiar with the campus and the surrounding area.	**.399**	.251
I feel that I matter to others at my college.	**.714**	**.**384
Others depend on me at my college.	**.669**	**.**153
Sense of Belonging Due to Adults on Campus (alpha = .738)		
I feel cared about by a faculty member at my college.	.199	**.881**
I feel cared about by a staff member at my college.	.266	**.873**
I feel cared about by my College Possible Coach.	.129	**.538**

Context, Background and Experiences

Potential control variables in my survey fall into the following categories: institutional characteristics, measures of age and progress toward degree, academic experiences in college, extracurricular experiences in college, potential impact of participation in the College Possible program, and finally social context and demographic variables. These items include control variables from previous studies discussed in Chapter 3 as well as an array of demographic variables. The frequencies of all potential control variables are presented below in Table 8.

Most respondents (81.4 percent) attend four-year institutions, and they are distributed among levels of institutional selectivity. The largest portion of participants attend more-selective institutions (40.6 percent), with 31.2 percent at selective institutions with some form of admission criteria beyond a high school diploma or general equivalency degree, and 27.9 percent attend an inclusive institution with open admission policies. Nearly two-thirds (63.4 percent) of participants attend public colleges or universities. Most students attend large colleges (47.8 percent), and 60.7 percent of students attend colleges and universities with primarily non-residential campuses.

Students with first-year or sophomore standing make up 63.8 percent of the participants in this study. The modal age of participants is 19, and the modal high school graduation year was 2015. The distributions of various measurements of age and progress toward degree all reflect the same trend. Younger and less experienced college students make up the largest portion of the participants, with numbers of participants falling off among older and more experienced students. Over 90 percent of participants were

enrolled as full-time students at the time of the survey, and 96 percent of them were enrolled full-time when they began college. The majority of participants report dedicating between five and fourteen hours per week to their studies. Many students (56.5 percent) report earning lower grades in college than they expected, with similar proportions of participants earning the same (21.8 percent) or higher (21.2 percent) grades compared to their pre-college expectations.

The most common responses regarding work hours per week was zero, both in measures of on-campus (61.1 percent) and off-campus (49.4) work hours per week. Over 80 percent of participants report that College Possible influenced their college search and choice process, and over 60 percent of participants credit College Possible as either one of or their most significant sources of support and belonging as college students.

Approximately three-quarters (76 percent) of participants are first-generation college students, nearly all (94.7 percent) have never been married, and 73.1 percent speak English as their primary language at home. Most of the participants are women (76.6 percent). Asian students make up the largest portion of the study, at 47.9 percent. African-American, Black, and African Immigrant students make up the second largest group by race or ethnicity, totaling 22.3 percent of the participants. Most participants (62.3 percent) report that their families are very supportive of their college choices, and only 3.2 percent say that their families do not support their college choices.

Table 8: Frequencies of Context, Background, and Experience Variables

Note: Some variables do not sum exactly to 100%, due to rounding and occasional small numbers of missing values

A) Institutional Characteristics

Selectivity of Institution

Not classified	.3 %
Inclusive	27.9
Selective	31.2
More selective	40.6

Control

Public	63.4 %
Private not-for-profit	35.4
Private for-profit	1.0
Missing/not classified	.3

College Sector

Public 4yr	45.4 %
Private not-profit 4yr	35.2
Private profit 4yr	.8
Public 2yr	18.0
Private not-profit 2yr	.2
Private for-profit 2yr	.2
Missing/not classified	.3

Level of College

4-year	81.4 %
2-year	18.6

Do you plan to pursue a Bachelor's degree in the future? (Conditional on current attendance at a 2-year institution)

Yes	13.7 %
No	1.3
Undecided	3.7

Table 8: Frequencies of All Potential Control Variables (continued)

Size and Setting

Not classified	.3 %
2-yr, very small	.3
2-year, small	0
2-year, medium	8.4
2-year, large	8.8
2-year, very large	.8
4-year, very small, primarily nonresidential	1.0
4-year, very small, primarily residential	.8
4-year, very small, highly residential	.6
4-year, small, primarily nonresidential	3.5
4-year, small, primarily residential	6.1
4-year, small, highly residential	9.7
4-year, medium, primarily nonresidential	5.4
4-year, medium, primarily residential	12.4
4-year, medium, highly residential	2.9
4-year, large, primarily nonresidential	32.3
4-year, large, primarily residential	5.4
4-year, large, highly residential	1.3
Exclusively graduate/professional	0

Size Only

Not classified	.2 %
Very small	2.9
Small	19.3
Medium	29.1
Large	47.8
Very large	.8

Residential Nature

Primarily non-residential	60.7 %
Primarily residential	24.7
Highly residential	14.5

Table 8: Frequencies of All Potential Control Variables (continued)

B) Measures of Age and Progress Toward Degree

Age

18	14.5 %
19	29.9
20	18.0
21	18.9
22	9.7
23	4.8
24	1.9
25	.8
26	.6
27	.5
28	.2
29	.2

High School Graduation Year

2006	.5 %
2007	.6
2008	.6
2009	1.6
2010	2.1
2011	5.6
2012	11.6
2013	19.7
2014	22.3
2015	35.4

Academic Standing

HS grad	0 %
FY	36.9
Soph	26.9
Jr	21.3
Sr	11.0
Fifth	2.9
Sixth	.8
Coll Grad	.2
Unenrolled	0

Table 8: Frequencies of All Potential Control Variables (continued)

Total Credits Completed

0-30	42.5 %
31-60	25.8
61-90	16.7
91-120	10.4
>120	4.3

Estimated College Graduation Date

2016	12.9 %
2017	21.2
2018	26.8
2019	34.1
2020	3.7
2021 or later	1.3

C) Academic Experiences in College

Average Study Hours Per Week

0-4	13.1 %
5-9	27.2
10-14	28.7
15-19	13.4
20-24	8.0
25-29	5.4
30 or more	4.3

Average College Grades Expected Before Beginning College

C- or lower	.5 %
C	1.0
C+	4.3
B-	3.5
B	19.7
B+	26.0
A-	18.5
A or A+	26.3

Table 8: Frequencies of All Potential Control Variables (continued)

Average Grades Earned in College

C- or lower	2.5 %
C	5.3
C+	6.2
B-	12.3
B	23.4
B+	22.6
A-	14.6
A or A+	12.6

Earning Same Average Grades as Expected

No	78.2 %
yes	21.8

Earning Higher Average Grades than Expected

No	78.8 %
Yes	21.2

Earning Lower Average Grades than Expected

No	43.5 %
Yes	56.5

Initial Enrollment Intensity

Full-time	96.0 %
Part-time	3.7

Current Enrollment Intensity

Full-time	90.1 %
Part-time	9.9
Unenrolled	0

Changed Academic Major in Past Year

No	70.2 %
Yes	29.8

Table 8: Frequencies of All Potential Control Variables (continued)

Will You Have To Transfer To Complete This New Major? (Conditional on Having Changed Major Recently) –

No	22.3 %
Yes	7.5

Changed Career Plans in Past Year

No	63.9 %
Yes	36.0

Will You Have To Transfer To Pursue These New Career Plans? (Conditional on Having Changed Career Plans)

No	26.6 %
Yes	9.2

Whether or Not the Student Has Transferred

Began at same college	76.1 %
Began at diff 2-yr	8.9
Began at diff 4-yr	14.6

Average On-Campus Hours Worked

0	61.1 %
1-9	14.0
10-19	18.8
20-29	4.0
30-39	1.1
40 or more	.5

Average Off-Campus Hours Worked

0	49.4 %
1-9	10.2
10-19	15.1
20-29	14.5
30-39	5.3
40 or more	5.6

D) Extracurricular Experiences in College

Change in Family Responsibilities in the Past Year

Fewer	16.9 %
Same	49.5
More	33.4

Family Support of College Choice

Not supportive	3.2 %
Little support	8.6
Somewhat supportive	25.5
Very supportive	62.3

E) Potential Impact of Participation in the College Possible Program

College Possible Influence on Initial College Choice

No influence	7.5 %
Learn, no guidance	10.7
Learn, some guidance	42.7
Lots of guidance	38.5

College Possible Influence on Belonging

Little interaction	18.6 %
Small source	18.6
One source	41.6
Major source	20.5

Table 8: Frequencies of All Potential Control Variables (continued)

F) Social Context and Demographics

Living Situation

On-Campus ResHall	31.8 %
On-Campus Apt	6.8
On-Campus Greek	.3
On-Campus Special Interest	.3
On-Campus Other	.3
Off-Campus With Family	43.8
Off-Campus Greek	.2
Off-Campus Rent	15.1
Off-Campus Other	1.3

Financial Worry Regarding Financing College Education

Not worried	17.0 %
Somewhat worried	54.1
Very worried	28.8

Does at Least One Parent or Guardian Have A College Degree?

No	76.0 %
Yes	23.7

Marital Status

Never married	94.7 %
Partnered	4.3
Separated	.3
Divorced	.3

Gender Identity

Woman	76.6 %
Man	20.7
Trans man	.3
Genderqueer	.5
Questioning	.5
ID not listed	.2
Prefer not to say	.5

Table 8: Frequencies of All Potential Control Variables (continued)

Race or Ethnicity

Native American	.3 %
Asian	47.9
Black	22.3
Latino(a)	13.2
White	9.4
Other/Multi	6.5

Sexual Orientation

Heterosexual	85.8 %
Gay or lesbian	1.6
Bisexual	4.0
Asexual	.5
Questioning	1.0
ID not listed	1.6
Prefer not to say	5.3

Is English Your Home Language?

Yes	73.1 %
No	26.6

Bivariate Analyses of Key Variables

This section presents bivariate logistic regressions of fit and belonging variables on the persistence choice variables, the results of means tests and cross tabulations of the dependent and independent variables by levels of various control variables, and a description of the results of correlation tests I performed on all available control variables. The bivariate analyses produced the first significant findings related to the central research question in my study. These analyses also helped me to determine which independent and control variables to enter into the multivariate regression models. Bivariate testing was done to identify concerns of collinearity and interference due to conceptual similarity between and among certain groups of variables.

Bivariate Logistic Regression

I performed bivariate regression analyses to examine which fit and belonging factors are statistically associated with students' reported desires and plans for their continuing college enrollment. These models explore how each independent variable measuring fit and belonging interacts with each dependent variable regarding students' persistence desires and plans.

Table 9 displays the results of bivariate logistic regressions of the dependent variables on the independent scales for fit and belonging. When the fit and belonging scales are entered one at a time, a number of scales are significantly associated with persistence desires and plans. In each of the bivariate logistic regressions, the fit and belonging scales are negatively associated with the dependent variables.

Table 9: Coefficients and Standard Errors of Bivariate Logistic Regression Analyses of Persistence Choices on Structural Fit and Sense of Belonging Scales

	Want To Leave	Want To Leave Institution	Plan To Leave	Plan To Leave Institution
Structural Fit				
Anticipated benefits of college completion	-.126 (.076)	-.124 (.081)	-.065 (.086)	-.064 (.092)
Low financial worry related to college attendance	-.259 (.080)**	-.239 (.085)**	-.262 (.089)**	-.134 (.095)
Less time to graduation less than originally estimated	-.432 (.089)***	-.414 (.094)***	-.320 (.097)**	-.280 (.102)**
Satisfaction with initial college choice	-.490 (.087)***	-.521 (.094)***	-.407 (.094)***	-.409(.100)***
Sense of Belonging				
Belonging due to campus environment	-.124 (.027)***	-.127 (.028)***	-.050 (.029)	-.050 (.031)
Belonging due to adults on campus	-.196 (.070)**	-.149 (.075)*	-.049 (.078)	-.094 (.083)

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Greater financial worry is associated with a greater likelihood that a student will want to and plan to leave. Less time to graduation than originally estimated is associated with a greater likelihood that a student will want to and plan to stay. Greater satisfaction with initial college choice is associated with a greater likelihood that student will want to and plan to stay. Among the four available structural fit scales, only anticipated benefits of college completion failed to reach statistically significant association with any of the persistence choice variables.

In the first finding directly tied to my research question, the two scales for sense of belonging are significantly associated with students' persistence desires, but not significantly associated with students' persistence plans. As might be expected conceptually, students who self-reported strong fit and belonging with their institutions are less likely to report wanting to leave college in general or leave their respective institutions than their peers who self-report lower levels of fit and belonging with their colleges or universities.

Means Tests

I tested institutional and demographic control variables with the fit and belonging scales as well as the persistence choice variables, looking for patterns and testing for significant differences between and among responses. Table 10 shows the mean values of fit and belonging scales by the levels of key control variables of interest. Of the variables compared by fit and belonging scales, 26 of the 45 pairs have statistically significant differences between among the means of institutional and demographic variables.

Examining the fit and belonging scales by institutional variables, students attending more selective institutions and four-year colleges have significantly lower levels of financial concern than students attending more inclusive institutions and two-year colleges.

Table 10: Analysis of Variance in Means of Fit and Belonging Scales by Levels of Institutional and Personal Variables

	Anticipated Benefits of Completion	Low Financial Worry	Satisfaction with College Choice	Less Time to Graduation	Belonging Due to Environment
Selectivity of institution					
More Selective	7.478	3.615	4.151	2.833	15.175
Selective	7.632	3.241	4.103	2.393	15.665
Inclusive	7.649	2.988	4.168	2.088	14.959
Not Classified	6.500	2.000	3.500	3.000	16.500
F-Statistic	*1.053*	*8.523****	*.243*	*12.179****	*.969*
College Sector					
Four-Year College	7.604	3.390	4.146	2.603	15.463
Two-Year College	7.421	3.009	4.103	1.983	14.435
F-Statistic	*1.580*	*7.512***	*.101*	*21.540****	*5.563**
Change in family responsibilities					
More responsibilities	7.558	2.734	4.073	2.053	14.754
Same responsibilities	7.602	3.641	4.136	2.696	15.419
Fewer responsibilities	7.491	3.548	4.283	2.755	15.952
F-Statistic	*.255*	*32.371****	*.905*	*18.443****	*3.106**
Family support of college choice					
Family very supportive	7.743	3.468	4.284	2.644	15.687
Family somewhat supportive	7.331	3.076	3.994	2.239	15.025
Family little/no support	7.164	3.110	3.685	2.257	13.649
F-Statistic	*8.415****	*5.833***	*7.925****	*6.844***	*7.714****

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 10: Means of Fit and Belonging Scales by Levels of Institutional and Personal Variables (continued)

	Anticipated Benefits of Completion	Low Financial Worry	Satisfaction with College Choice	Less Time to Graduation	Belonging Due to Environment
Racial/Ethnic category					
White	7.848	3.881	4.305	2.610	15.627
Latinx	7.735	3.061	4.398	2.537	15.133
Black	7.732	3.599	4.007	2.787	15.905
Asian	7.357	3.111	4.137	2.368	15.147
Multi-Race or Other Category	7.791	3.512	3.837	2.119	13.881
F-Statistic	*3.325**	*6.960****	*1.984*	*3.441***	*2.103*
Gender identity					
Woman	7.613	3.378	4.174	2.508	15.331
Man	7.473	3.148	4.078	2.496	15.269
Other Gender	7.000	2.917	3.667	1.667	14.667
F-Statistic	*1.526*	*2.011*	*1.095*	*2.430*	*.151*
Sexual orientation					
Heterosexual	7.619	3.357	4.175	2.537	15.461
LGBTQIA	7.253	3.046	3.920	2.195	14.105
F-Statistic	*5.090**	*3.953**	*2.858*	*5.110**	*7.671***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 10: Means of Fit and Belonging Scales by Levels of Institutional and Personal Variables (continued)

	Anticipated Benefits of Completion	Low Financial Worry	Satisfaction with College Choice	Less Time to Graduation	Belonging Due to Environment
College Possible influence on belonging					
CP major source of support	7.654	2.929	4.244	2.571	16.120
CP one source of support	7.523	3.350	4.266	2.585	15.674
CP little to no interaction	7.584	3.496	3.931	2.357	14.361
F-Statistic	*.378*	*7.373***	*4.592**	*2.122*	*9.285****
Whether or not the student has transferred					
Began at same college	7.634	3.385	4.184	2.679	15.674
Began at different 2-year	7.182	2.618	4.055	2.057	13.732
Began at different 4-year	7.456	3.429	3.967	1.783	14.132
F-Statistic	*2.888*	*8.415****	*1.177*	*22.673****	*9.349***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Students attending more selective institutions and four-year colleges are also significantly more likely to anticipate having less time to graduation than students attending open more inclusive institutions and two-year colleges. Students attending four-year institutions also report a significantly stronger sense of belonging than those attending two-year institutions.

Students with more family responsibilities than the previous year have significantly higher levels of financial worry, anticipate more time to graduation, and have a lower sense of belonging than their peers with relatively fewer family responsibilities. Students whose families are very supportive of their college choice have significantly positive differences across all fit and belonging scales as compared to their peers whose families are not supportive of their college choices. Students with greater family support of their college choice anticipate greater benefits upon college completion, have lower levels of financial worry, are more satisfied with their college choice, anticipate less time to graduation, and have a greater sense of belonging.

Racial or ethnic groups also differed significantly in mean scores on three of the fit and belonging scales. These group differences cannot be interpreted in the same manner as the previously mentioned institutional and demographic variables, as personal descriptions like race or ethnicity are categorical variables without a valued order. Racial and ethnic categories demonstrate significant variation in means for anticipated benefits upon graduation, level of financial worry, and anticipated time to graduation. Similarly, heterosexual students have significantly higher scores for anticipated benefits upon graduation, lower level of financial worry, less anticipated time to graduation, and their

sense of belonging than students who identify as lesbian, gay, bisexual, transgender, queer, intersex, or asexual.

College experience variables of interest also demonstrate significant differences in mean scores for fit and belonging. Students who consider their participation in College Possible to have influenced their sense of belonging have significantly higher levels of financial worry, greater satisfaction with their college choice, and a greater sense of belonging than students who have little or no interaction with the College Possible program. Students who have not transferred from their initial college choice report significantly less anticipated time to graduation and greater sense of belonging than those who have transferred at least once. There is also significant variation in the mean scores for lower level of financial concern based on whether or not a student has transferred. Students who began at a different two-year institution than the one they attended at the time of the survey have significantly greater financial worry than those who either had not transferred, or had transferred from a different four-year institution to their current college or university.

Crosstabulations

Table 11 shows the percentage of respondents who plan or want to leave their current institution, by levels of institutional and personal variables. Many of these key control variables show significant variation among possible responses, as demonstrated by the Chi-squared values that test the significance of observed differences between or among compared values.

Table 11: Percentage of Respondents Who Want or Plan To Leave, by Levels of Institutional and Personal Variables

	Want to Leave	Want to Leave Institution	Plan to Leave	Plan to Leave Institution
Overall Percentage Who Want to or Plan to Leave	16.1 %	13.5 %	12.4 %	10.7 %
Selectivity of institution				
More Selective	10.6 %	9.0 %	5.5 %	4.7 %
Selective	10.2	8.7	7.2	5.6
Inclusive	30.5	25.3	28.6	25.1
Not Classified	50.0	50.0	0.0	0.0
Chi-Squared	*39.026***	*31.166***	*58.158***	*53.146***
College Sector				
Four-Year College	11.0	9.0	7.1	5.3
Two-Year College	38.8	33.6	35.9	34.2
Chi-Squared	*54.200***	*48.894***	*72.466***	*83.041***
Change in family responsibilities				
More responsibilities	22.9	19.0	15.7	14.3
Same responsibilities	12.3	10.3	10.0	8.4
Fewer responsibilities	13.2	11.3	12.4	10.5
Chi-Squared	*11.206***	*8.687**	*3.785*	*4.559*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 11 (continued)

	Want to Leave	Want to Leave Institution	Plan to Leave	Plan to Leave Institution
Overall Percentage Who Want to or Plan to Leave	16.1 %	13.5 %	12.4 %	10.7 %
Family support of college choice				
Family very supportive	11.3	9.7	7.9	6.9
Family somewhat supportive	20.1	17.0	16.9	15.0
Family little/no support	32.4	25.7	27.4	21.9
Chi-Squared	*23.406***	*15.869***	*24.964***	*18.448***
Racial/Ethnic category				
White	16.9	13.6	8.5	6.8
Latino/Latina	24.1	16.9	10.8	8.4
Black	16.5	15.1	12.2	11.5
Asian	12.6	11.3	12.7	11.3
Multi-Race or Other Category	20.9	16.3	20.9	14.0
Chi-Squared	*7.448*	*2.659*	*3.893*	*2.086*
Gender identity				
Woman	17.5	14.6	13.6	11.7
Man	10.0	8.5	7.7	6.2
Other Gender	8.3	8.3	8.3	8.3
Chi-Squared	*4.843*	*3.601*	*3.463*	*3.405*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 11 (continued)

	Want to Leave	Want to Leave Institution	Plan to Leave	Plan to Leave Institution
Overall Percentage Who Want to or Plan to Leave	16.1 %	13.5 %	12.4 %	10.7 %
Sexual orientation				
Heterosexual	14.9	12.1	11.7	10.2
LGBTQIA	23.0	21.8	17.2	13.8
Chi-Squared	*3.673*	*6.129**	*2.078*	*.985*
College Possible influence on belonging				
CP major source of support	12.4	9.3	16.3	13.2
CP one source of support	11.5	10.4	9.2	8.5
CP little to no interaction	23.1	19.2	14.2	12.0
Chi-Squared	*13.775***	*10.700***	*4.800*	*2.597*
Whether or not the student has transferred				
Began at same college	14.5	11.7	10.3	8.8
Began at different 2-year	17.9	16.1	17.9	14.3
Began at different 4-year	22.8	20.7	20.9	18.7
Chi-Squared	*4.169*	*5.632*	*9.465***	*8.586**

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Students' persistence plans and desires vary significantly based on the characteristics of the institutions they attend. Students at more selective institutions are less likely to want to or plan to leave than students at inclusive or unclassified institutions. Students attending four-year colleges are also less likely to want to or plan to leave than students attending two-year colleges. In fact, students attending inclusive or open access institutions and students attending two-year colleges are approximately twice as likely as the overall survey participant pool to want to and plan to leave their current institution.

Students who report having more family responsibilities than the previous year are significantly more likely to want to leave than those with fewer family responsibilities than the previous year. Students whose families demonstrate little or no support for their college choice are much more likely to want to and plan to leave than those with greater family support. Among personal demographic variables, the only category with statistically significant differences is sexual orientation. Heterosexual students are less likely to want to leave their current institution than students who identify elsewhere on the spectrum of sexual orientation. Although trends can be seen between and among the other personal demographic variables and the enrollment desires and plans variables, none of the observed differences within a variable between response categories are statistically significant. This lack of significance means that, in this particular pool of respondents, differences in race and ethnicity, gender identity, and sexual orientation are not statistically significantly associated with persistence desires or plans.

The final types of control variables examined through Chi-squared analysis of difference regarded academic and programmatic experiences of students. In the item measuring the influence of participation in the College Possible program on a given student's reported sense of belonging and feeling of support as a college student, significant differences can be seen among the response options for students' reported desires or hopes for persistence, but not for their reported plans for persistence. Reporting on their college experiences, students with little or no interaction with the College Possible program are significantly more likely to report wanting to leave than their peers who find belonging as a result of participation in College Possible.

The differences between students who had attended only one college and students who had transferred at least once are statistically significant in terms of reported plans for persistence, but not significant in terms of reported desires for persistence. Students who had transferred from their initial college choice to another institution at the time of the survey are more likely to plan to leave than those who had persisted at their original college choice.

Correlation Testing

I next performed correlation tests to analyze to what extent multicollinearity might be a concern if all potential control variables were to appear in the subsequent analyses. As might be expected, a number of control variables were highly correlated due to their conceptual similarity. A complete correlation matrix is included as Appendix E. To avoid multicollinearity, I eliminated a number of potential control variables before proceeding with the final multivariate regression analyses.

I dropped all but one of the available measures of age and college experience to avoid redundancy and statistical interference. The variables of this type I dropped were: student's age in years, high school graduation year, total credits completed, and estimated college graduation date. The final model includes college class standing, which was an effective proxy for both age and academic experience. Among the demographic variables, the item measuring whether or not English was a student's home language was highly correlated with multiple race or ethnicity identifiers, and was eliminated from the model. Another potential control variable I did not include in regression analyses is level of financial worry. Financial worry was conceptually similar to and highly correlated with the fit scale measuring financial concerns.

The next potential control variable I excluded from subsequent analyses was the current institution each student attends. In addition to being problematic for protecting anonymity of participants, there are 128 different institutions among the 692 students who completed the survey. I used the student-provided college or university names to incorporate various institutional traits such as admission selectivity and relative residential nature of campus, drawn from the 2015 Carnegie Classification of Institutions of Higher Education. These classifications are updated each five years by the Indiana University Center for Postsecondary Research, and the 2015 version is the most recent classification system available. I tested a number of the Carnegie Classification variables, and some are valid measures of difference between and among independent scale variables and the dependent variables in my study. I retained variables for institutional admission selectivity and public versus private institutional control. The

other Carnegie Classification variables I tested (two-year versus four-year institution, size of institution, and residential nature of institution) were highly correlated with one another as well as the two retained variables.

Another pair of potential control variables examined through correlation testing were the items asking if students had recently changed their intended major or intended future career. These two items regarding recent changes to intended major or intended career are highly correlated and conceptually similar. Due to the high correlation, I tested these items through regression modeling with both the independent scale variables and the dependent variables to determine whether or not it would be wise to retain both items as control variables. Comparing the results of regression models including and excluding one or the other item regarding changing major or career, I retained the variable for changing intended career. Both of these items also conditionally triggered follow-up questions for students who indicated that they had recently changed their intended major or intended career. I discuss these conditional items in greater detail in a later section.

Similar testing was done on two other groups of potential control variables. Next was the group of variables that described student academic performance in college. The original survey items asked for simple reports of the average letter grades students expected before enrolling in college and the average grades students had received in college. I computed indicator variables for whether a student had received the same, higher, or lower grades than anticipated. Testing these three measures resulted in keeping the average grade earned variable and the average grade expected variables, and I removed the computed comparison between the two.

The third set I examined in this way was the pair of questions regarding students' interactions with the College Possible program. The survey items asked first what level of impact College Possible had in a student's college enrollment choice, and then the level of impact College Possible had on a student's sense of belonging in college. Although the correlation between the two College Possible-related variables was moderate, it was clear through regression modeling that retaining both variables was affecting other interactions in the model. I chose to retain the variable related to sense of belonging, both for its conceptual ties to the research question, as well as its demonstrated significance for two of the persistence choice variables.

Conditional Survey Items Not Included in Regression Analyses

As indicated earlier in this chapter, three items on the survey were conditional upon earlier responses and did not garner enough responses to be considered in the final analyses. The first was an item presented only to those students who indicated they were attending an Associates-degree-granting institution. They were asked whether or not they were interested in pursuing a Bachelor's degree after completing their Associate's degree. As seen in Table 12, more students currently attending an Associate-granting institution report that they intend to pursue a Bachelor's degree (n=86) than not to pursue one (n=8) or were undecided about their future plans (n=23). In addition, a greater percentage of students who either did not intend to pursue a Bachelor's degree or were uncertain report wanting to and planning to stay at their current institution than wanting to or planning to leave.

Table 12: Percent of Students Who Want or Plan to Leave, by Plan for Bachelor's Degree, Among those Attending an Associate-Degree-Granting Institution

Plan to Pursue a Bachelor Degree Post-Associate Degree?	Want to Leave			Want to Leave Institution			Plan to Leave			Plan to Leave Institution		
	No	Yes	n	No	Yes	n	No	Yes	n	No	Yes	n
Yes	55%	45%	*85*	61%	39%	*85*	62%	38%	*86*	63%	37%	*86*
No	75	25	*8*	75	25	*8*	75	25	*8*	75	25	*8*
Undecided	78	22	*23*	83	17	*23*	70	30	*23*	74	26	*23*
n	*71*	*45*	*116*	*77*	*39*	*116*	*75*	*42*	*117*	*77*	*40*	*117*
Chi-Squared		*4.710*			*4.012*			*.940*			*1.320*	

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 13: Percent of Students Who Want or Plan to Leave, by Plan to Transfer to Pursue Major, Among Those Who Report Changing Their Major

Plan to Transfer to Pursue Major?	Want to Leave			Want to Leave Institution			Plan to Leave			Plan to Leave Institution		
	No	Yes	n	No	Yes	n	No	Yes	n	No	Yes	n
Yes	45%	55%	*47*	53%	47%	*47*	53%	47%	*47*	60%	40%	*47*
No	94	7	*139*	94	6	*139*	97	3	*140*	98	2	*140*
n	*151*	*35*	*186*	*156*	*30*	*186*	*161*	*26*	*187*	*165*	*22*	*187*
Chi-Squared	*54.854****			*43.759****			*56.782****			*49.678****		

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Note: Not all rows sum exactly to 100% due to rounding

Table 14: Percent of Students Who Want or Plan to Leave, by Desire for BA Degree, Among Those Who Report Changing Their Intended Career

Plan to Transfer to Pursue Career?	Want to Want to Leave			Want to Leave Institution			Plan to Leave			Plan to Leave Institution		
	No	Yes	n	No	Yes	n	No	Yes	n	No	Yes	n
Yes	49%	51%	57	53%	47%	*57*	52%	48%	*58*	55%	45%	*58*
No	89	11	167	91	9	*167*	94	6	*165*	95	5	*165*
n	*176*	*48*	*224*	*182*	*42*	*224*	*185*	*38*	*223*	*189*	*34*	*223*
Chi-Squared	*39.380****			*41.103****			*54.100****			*53.081****		

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Very few institutions granting Associate's degrees also offer Bachelor's degrees. This sector distinction means that students currently pursuing Associate's degrees are almost certain to enroll at another institution at some point in the future if they are to pursue a Bachelor's degree. The results of this study follow this logic, as a high percentage of students attending Associate-granting institutions, regardless of whether or not they intend to eventually pursue a Bachelor's degree, plan to leave their current institution. The Chi-squared analyses of these comparisons were not statistically significant, likely due to the small number of responses.

The remaining two conditional items followed from questions regarding whether or not students had changed their major or intended career in the past year. Students who reported yes to either of these decisions were asked if they will have to transfer to another school to pursue either the new major they desired or the new career path to which they aspired. As seen in the cross tabulations in Table 13 and Table 14, an overwhelming majority of the students who do not have to transfer to pursue either a new academic major or a new intended career report not wanting to or planning to leave. Among students who report a likely future transfer to pursue either a new academic major or a new career, however, the trend of reported enrollment desires and plans is quite different. Students who are likely to transfer are split between desires and plans to leave or stay where they were currently enrolled.

In Table 13 and Table 14, the observed differences in persistence plans and desires between students who do and do not have to transfer are highly statistically significant. This finding suggests that students who change their academic major or

intended career are more likely to want to and plan to leave their current institution than students whose academic and career plans have not changed considerably. Furthermore, for students who report a likely transfer to pursue either a new major or a new career path, the question of if they want to and plan to leave their current institution essentially becomes less relevant.

Multivariate Regression Analyses

Following bivariate logistic regression modeling, means tests, cross tabulations, and correlation testing, I next completed multivariate regression models, entering all the relevant independent variables simultaneously. The data and conceptual model might seem to be well-designed for a path analysis. A true path analysis was not possible, however, because the fit and belonging are expressed in continuous form and the persistence choice desires and plans are expressed as indicator variables. Instead of a path analysis, I performed two separate multivariate regression analyses. First, I performed multivariate regression of the structural fit and sense of belonging scales on institutional and personal control variables. Second, I performed multivariate logistic regressions of the fit and belonging scales and institutional and personal control variables on the persistence choice desires and plans variables.

Multivariate Linear Regression of Fit and Belonging on Institutional and Personal Variables

Although many of the fit and belonging scales had the moderate correlations I expected, one problematic relationship between independent variables became evident.

The two scales for sense of belonging are highly correlated (.537, $p<.001$), leading to a decision about which of the two variables to retain. After considering both their demonstrated statistical significance as well as their conceptual centrality to the model, I decided to remove the scale describing sense of belonging due to adults on campus. This scale had only three individual items as compared to the nine items combined in the general environmental sense of belonging scale. The scale related to environmental belonging was also more highly statistically significantly associated with persistence choice variables, making the selection between the two relatively straightforward.

Table 15 presents standardized coefficients of regressions of fit and belonging scales on institutional and personal variables. The institutional and personal variables are separated into categories for ease of interpretation: institutional characteristics, student academic experiences, student extracurricular experiences, and demographics.

Institutional selectivity is significantly associated with four of the five fit and belonging scales when controlling for all other variables in the model. As seen in Table 15, the selectivity of the institution attended has differing effects on fit and belonging scales. Attending a more selective institution, on average, is associated with lower financial worry about college attendance and a less time to graduation than original anticipated, holding all other variables constant. Attending a more selective institution is associated with a lower score on the general sense of belonging due to campus environment, as well as a lower comparative rating on anticipated graduation benefits, after controlling for all other variables in the equation. The sector of college attended is

significantly associated with time to degree completion, as attending a private college associated with less time to graduation.

Table 15: Standardized Coefficients of Multivariate Regression Analyses of Independent Scale Variables for Fit and Belonging on All Control Variables

	Anticipated Benefits of Completion	Lower Financial Worry	Satisfaction With College Choice	Less Time To Graduation	Belonging Due To Environment
Institutional Characteristics					
Selectivity of college - ACT	-.261**	.176*	.038	.240**	-.726**
Attends public college (referent group)					
Attends private college	.117	.064	.113	.423***	.638
Student Experiences – Academic					
Academic class standing	-.077	.099*	.023	-.018	.383*
Study hours per week	.134***	.027	-.022	-.030	.221*
Grades expected	.153***	.006	-.006	.019	-.052
Grades earned	.050	.083**	.123***	.168***	.322**
Initially enrolled part-time	-.231	-.147	.177	.087	-.113
Currently enrolled full-time (referent group)					
Currently enrolled part-time	-.144	-.085	-.199	-.646***	-.619
Changed career plans	-.213	-.143	-.089	-.129	.162

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 15 (continued)

	Anticipated Benefits of Completion	Lower Financial Worry	Satisfaction With College Choice	Less Time To Graduation	Belonging Due To Environment
Has not transferred (referent group)					
Transferred from different two-year	-.371	-.486*	.017	-.213	-1.335*
Transferred from different four-year	-.199	.324*	-.015	-.454**	-1.089*
Student Experiences - Extracurricular					
On-campus work hours per week	.013	-.046	.054	.020	.436*
Off-campus work hours per week	-.020	-.108**	.031	.014	-.328*
Change in family responsibilities	.066	-.351***	-.103	-.223**	-.154
Family support college choice	.159*	.076	.198**	.037	.582**
CP influence on belonging	-.022	-.112*	.121*	.077	.686***
Demographics					
Living in campus dorms (referent group)					
Living on-campus elsewhere	.115	-.033	-.022	-.230	-.629
Living with family	.026	.029	.177	-.097	-.792
Living off-campus elsewhere	.045	-.246	-.188	-.189	-.890
First-Generation college	-.219	.327*	.006	-.038	-.471
Single (referent group)					
Married or partnered	-.193	.099	.002	.287	-.639

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 15 (continued)

	Anticipated Benefits of Completion	Lower Financial Worry	Satisfaction With College Choice	Less Time To Graduation	Belonging Due To Environment
Woman (referent group)					
Man	-.002	-.170	-.038	.033	.331
Other Gender	-.124	-.236	-.312	-.359	1.049
Asian (referent group)					
Af-Am, African, Black	.373*	.465**	-.155	.410**	1.085*
Latinx/Hispanic	.263	.141	.238	.068	.306
Caucasian or White	.562**	.415*	.195	.108	.593
Multiracial or Other	.694**	.552*	-.125	-.090	-.530
Heterosexual (referent group)					
LGBTQIA	-.277	-.184	-.155	-.095	-1.185*
Constant (Beta)	6.455***	3.242***	2.766***	1.462***	11.378***
R-squared	.147***	.218***	.095**	.263***	.201***
Adjusted R-squared	.104***	.179***	.050**	.226***	.161***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Many student academic experiences are significantly associated with various fit and belonging scales. Academic class standing is significantly related to both financial worry and sense of belonging. Having more advanced academic standing (e.g. senior versus sophomore in college) is associated with lower financial worry and a greater sense of belonging due to campus environment. A greater average number of study hours per week is associated with greater anticipated benefits of college completion, as well as a greater sense of belonging. Higher expected college grades are associated with greater anticipated benefits of college completion. While expected college grades are not significantly related to the remaining fit and belonging scales, earned college grades are highly significantly related to four of the fit and belonging scales. Earning higher grades is associated with lower financial worry, greater satisfaction with college choice, less time to graduation, and greater sense of belonging.

Being enrolled in college part-time is significantly associated with anticipating longer time to graduation when compared to being enrolled in college full-time, but enrollment intensity is not significantly associated with the other fit and belonging scales. Having transferred from another institution is significantly associated with greater financial worry and a lower sense of belonging. Having transferred from a different four-year institution to either a two-year or a four-year institution is significantly related to anticipating more time to graduation than originally planned.

Many student extracurricular experiences also significantly related to fit and belonging in this study. Working a greater average number of hours in an on-campus job is associated with a greater sense of belonging. This finding related to on-campus work

contrasts with the measurement of off-campus work. Working a greater average number of hours in an off-campus job is associated with more financial worry and lesser sense of belonging. A change in family responsibilities from the previous year is associated with greater financial worry and a longer time to graduation. Family support of a student's college choice is highly significantly related to satisfaction with college choice as well as greater sense of belonging. Greater influence of participation in the College Possible program is associated with greater financial worry, but also with greater satisfaction with college choice and greater sense of belonging.

Examining the relationships between personal demographics and fit and belonging, being a first-generation college student is significantly associated with lower financial worry, but not the remaining fit and belonging scales. Comparing racial and ethnic groups to the Asian population that made up the majority of participants, African-American, African immigrant, and Black students have greater anticipated completion benefits, lower financial worry, anticipate less time to graduation, and a greater sense of belonging. Students identifying as Caucasian, White, Multiracial or another category not listed have significantly greater anticipated completion benefits and lower financial worry than Asian students in this study. The last remaining demographic variable of interest is sexual orientation. Heterosexual orientation is significantly associated with greater sense of belonging, compared to sexual orientation elsewhere on the spectrum.

Multivariate Logistic Regression Analysis of Persistence Choice on Fit and Belonging Scales and Individual and Personal Variables

The final logistic regression models test the significance of all relevant independent variables and control variables in explaining students' reported desires and plans regarding for persistence. The results are presented in Table 16.

I performed the logistic regression runs by simultaneously entering the fit and belonging scales as well as institutional and personal variables included in the previous multivariate linear regression runs. As was seen in the multivariate logistic regressions on the fit and belonging scales without additional control variables, students' satisfaction with their initial college choice is the most highly significantly associated factor with students' reported enrollment desires and plans. This finding follows from conceptual understandings of college persistence choice as a continuation of previous college choices made by a student. Given the descriptive finding that the majority of participants report both desires and plans to remain enrolled at their current institution, it is reasonable to expect that greater reported satisfaction with their initial college choice would result in desires and plans to remain at that same college, and that this factor would be statistically significantly associated with persistence choices.

Table 16: Coefficients of Multivariate Logistic Regression Analysis of Persistence Desires and Plans on Fit and Belonging Scales and Institutional and Personal Variables

	Want to leave B (S.E.)	Want to leave institution B (S.E.)	Plan to leave B (S.E.)	Plan to leave institution B (S.E.)
Structural Fit				
Anticipated benefits of completion	-.012 (.105)	.003 (.111)	-.007 (.126)	.040 (.132)
Lower financial worry	-.276 (.118)*	-.256 (.125)*	-.341 (.141)*	-.133 (.148)
Satisfaction with college choice	-.571 (.118)***	-.553 (.123)***	-.667 (.147)***	-.638 (.151)***
Less time to graduation	-.292 (.130)*	-.233 (.137)	-.146 (.155)	-.112 (.160)
Belonging				
Belonging due to environment	-.012 (.036)	-.023 (.037)	.083 (.043)	.049 (.045)
Institutional Characteristics				
Selectivity of college - ACT	-.692 (.216)**	-.713 (.229)**	-.903 (.259)**	-.892 (.274)**
Attends public college (referent group)				
Attends private college	-.535 (.342)	-.863 (.382)*	-.789 (.427)	-1.083 (.468)*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 16 (continued)

	Want to leave B (S.E.)	Want to leave institution B (S.E.)	Plan to leave B (S.E.)	Plan to leave institution B (S.E.)
Student Experiences – Academic				
Academic class standing	-.586 (.167)***	-.431 (.171)*	-.544 (.190)**	-.402 (.192)*
Study hour per week	-.022 (.100)	.012 (.105)	-.106 (.120)	-.042 (.123)
Grades expected	.013 (.095)	.053 (.101)	.014 (.117)	.002 (.120)
Grades earned	-.036 (.082)	-.019 (.086)	-.003 (.098)	.001 (.101)
Initially enrolled part-time	.810 (.644)	.463 (.680)	1.323 (.719)	1.574 (.712)*
Currently enrolled full-time (referent group)				
Currently enrolled part-time	.044 (.497)	.033 (.513)	.155 (.555)	.102 (.580)
Changed career plans	.466 (.286)	.566 (.302)	.792 (.342)*	.909 (.358)*
Has not transferred (referent group)				
Transferred from different two-year	-.668 (.516)	-.463 (.526)	-.425 (.590)	-.387 (.607)
Transferred from different four-year	.084 (.422)	.079 (.440)	.490 (.478)	.354 (.501)
Student Experiences - Extracurricular				
On-campus work hours per week	-.002 (.163)	-.109 (.177)	-.375 (.215)	-.453 (.229)*
Off-campus work hours per week	.007 (.107)	.002 (.114)	.109 (.126)	.020 (.135)
Change in family responsibilities	.157 (.235)	.118 (.244)	-.240 (.265)	.009 (.276)
Family support college choice	-.569 (.172)**	-.460 (.177)**	-.805 (.204)***	-.780 (.209)***
CP influence on belonging	-.289 (.143)*	-.282 (.150)	.056 (.174)	.123 (.183)

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 16 (continued)

	Want to leave B (S.E.)	Want to leave institution B (S.E.)	Plan to leave B (S.E.)	Plan to leave institution B (S.E.)
Demographics				
Living in campus dorms (referent group)				
Living on-campus elsewhere	.292 (.608)	.335 (.617)	.420 (.730)	.565 (.742)
Living with family	.176 (.421)	-.055 (.451)	.171 (.494)	.068 (.525)
Living off-campus elsewhere	.130 (.515)	-.100 (.548)	-.874 (.664)	-1.045 (.709)
First-Generation college	.687 (.342)*	.629 (.360)	1.003 (.411)*	.916 (.427)*
Single (referent group)				
Married or partnered	-1.878 (1.001)	-2.339 (1.213)	-20.422 (6719.2)	-20.015 (6939.8)
Woman (referent group)				
Man	-.859 (.391)*	-.794 (.416)	-1.063 (.466)*	-.954 (.489)
Other Gender	-2.126 (1.231)	-1.974 (1.257)	-2.997 (1.371)*	-2.273 (1.312)
Asian (referent group)				
African-American, African, Black	.496 (.408)	.395 (.421)	-.394 (.495)	-.303 (.505)
Latinx, Hispanic	.885 (.429)*	.408 (.462)	-.780 (.572)	-.861 (.621)
Caucasian or White	1.120 (.504)*	.869 (.535)	.458 (.665)	.257 (.714)
OtherMultiRace. Multiracial or Other	.118 (.630)	-.248 (.683)	1.086 (.624)	.408 (.693)
Heterosexual (referent group)				
LGBTQIA	.337 (.399)	.591 (.405)	.782 (.446)	.649 (.475)

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Table 16 (continued)

	Want to leave B (S.E.)	Want to leave institution B (S.E.)	Plan to leave B (S.E.)	Plan to leave institution B (S.E.)
Constant	6.726 (1.496)***	5.737 (1.522)***	6.453 (1.724)***	4.739 (1.766)**
Model Evaluation				
Omnibus Test of Model Coefficients				
Chi-Squared	144.362***	117.770***	151.366***	130.527***
Cox&Nell pseudo-R-square	.217	.181	.227	.199
Nagelkerke pseudo-R-square	.380	.341	.446	.419
Hosmer and Lemeshow Chi-sq	8.692	6.804	5.924	11.490
Overall prediction %	86.1	88.5	91.0	92.4

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Low financial worry related to college attendance is significantly associated with all of the persistence choice variables, except for students' reported plans to leave their current institution. In each case, the coefficients for financial concern are negative, indicating that students with low financial concern about college attendance are less likely to want to leave and less likely to plan to leave. A student's report of having less time to degree than initially estimated is significantly related to students' reported desires for enrollment, but not for their reported enrollment plans. Having less time to graduation is associated, on average, with a desire to stay enrolled at the current institution. The scale variable describing students' perceptions of the benefits they anticipate from their future graduation is not statistically significantly associated with hopes or plans for continued enrollment, holding other variables constant.

The finding of greatest interest in terms of the central research question for this study relates to sense of belonging due to the general campus environment. In the multivariate logistic regression model, sense of belonging fails to reach statistical significance in relation to students' reported persistence desires or plans. This result stands in contrast with the results of earlier multivariate logistic regression models without additional control variables, wherein sense of belonging appears as significantly associated with students' reported desires to leave their current institution. Without including other control variables, higher scale scores for sense of belonging are associated with a desire to stay at the current institution. While including structural fit scales and variables describing institutional context, student experiences, and

demographics in multivariate logistic regression models, sense of belonging no longer significantly explains any variation in persistence desires or plans.

In examining other control variables in the model, two stand out as highly significantly associated with persistence choices. The selectivity of the college a student attends is a highly significantly related to persistence desires and plans. As might be expected given the higher rates of persistence and completion at more selective colleges and universities, participants in this study attending more selective colleges are more likely to want to and plan to stay at their current institutions. Compared to attending a public college, attending a private college is associated with wanting to and planning to stay at the current institution.

Among the student academic experience variables, academic class standing, initial enrollment intensity and a recent change in career plans are significantly related to persistence choice. Students with more advanced class standing are less likely to want to or plan to leave. Students who were initially enrolled part-time are more likely to plan to leave their institution, and those who had changed career plans in the previous year are more likely to plan to leave.

Family support of college choice, average weekly hours worked on-campus, and College Possible influence on sense of belonging all are statistically significant associated with persistence choice. Working a greater average number of hours in on-campus employment is associated with a lower probability of planning to leave the institution. Greater family support for college choice is highly significantly associated with greater likelihood of wanting to and planning to persist at the current institution.

A student's status as a member of the first generation of their family to pursue a college degree is also significantly related to three of the four dependent variables of enrollment desires and plans. First-generation students are more likely to report wanting and planning to leave than their peers in the study whose parents had attained a college degree, holding other factors constant. The indicator variables for self-reported gender also show many significant coefficients. Women are statistically significantly more likely to want to and plan to leave than students of other gender identities. The last statistically significant association among the personal variables is a student's race or ethnicity. Compared to Asian students who are the referent group, Latino(a), Hispanic, Caucasian, and White students are more likely to want to leave.

After completing my statistical analyses of the survey findings, I turn now to analyses of the interviews I conducted with the students who volunteered to speak with me after completing the survey.

Interview Analysis

As described in Chapter Three, the on-line survey was followed with phone interviews of a number of students. Although not all students who volunteered for interviews could or did participate, I gained insight on persistence choices from first-year and second-year students at a variety of colleges and universities.

Of the 14 students who completed interviews, five attended large public colleges or universities, seven attended small private colleges, one attended a mid-sized public university, and one attended a technical college. Eight women and six men were

interviewed, with approximately the ethnic and racial makeup of the total survey respondents: seven Asian students, two Latino(a) students, three Black or African students, and two Caucasian students. Ten interviewees were in their first year of college study, and the remaining four were in their second year, with only two interviewees having transferred from one institution to another. Interviews were all conducted by phone for consistency, whether a given student attended a local college or attended one outside of driving distance.

As I described in Chapter 3, these interviews followed a semi-structured protocol, by which I standardized the questions while still allowing students' experiences to lead to follow-up discussions that I did not anticipate in my design. Centrally connected to the conceptual model for this study, personal interviews helped to flesh out many of the college experiences that directly contribute to students' persistence decisions, but also indirectly contribute to those decisions through students' ongoing evaluations of fit and belonging, based on their daily experiences as college students. In my analysis of the transcripts, many unique college experiences came to light, and six consistent themes arose from the transcripts.

Themes were identified through two methods in my reading of the transcripts. First, some themes were organized around the responses to questions included in the interview protocol. Second, themes also arose in students' descriptions of various aspects of their lives on campus. Interpersonal experiences between students and others on campus, reactions to participants' new status as college students, and discussions of belonging all contributed to conceptual threads that were grouped by similar expressions,

similar experiences, and common perceptions. These factors found across interviews became the themes I coded in subsequent re-readings of the transcripts. The themes presented here are: experiences unique to students' identities, positive experiences in adjusting to college, negative experiences in adjusting to college, student definitions of belonging, experiences and factors related to belonging, and persistence decisions. The following sections of this chapter detail the key findings of these six themes, connecting them to the central question of how students from families earning low wages make their enrollment decisions, with an explicit focus on the ways in which students experience belonging in their new college environments.

Experiences Unique to Students' Identities

The topic of identity came up frequently in the course of discussing adjustment to college life, a sense of belonging, and decision-making about college persistence. The most frequently cited aspects of identity discussed by students were their racial and ethnic identities in relation to their college peers, their status as first-generation college students in their families, their social-class identities as children of families earning low wages, and, for most of them, the feeling of being more obviously and more frequently in the minority with respect to their most salient identities. Due to racial and ethnic diversity of high schools with high rates of poverty in which College Possible operates, all participants were attending colleges and universities with higher percentages of Caucasian or White and wealthy students than in their respective high schools. One student attending a highly selective college said, "I came from a high school that was rather poorly funded… I realize now, a lot of my classmates have had extensive research

opportunities, and they come in being so far ahead that I almost feel like because of my high school's lack of opportunities, I'm already starting three steps behind." Other students at a variety of institutional types noted that college life was a significant transition from high school, both socially and academically. In most cases, this transition was reported as a struggle due to one or more of their identities.

Many students spoke of carrying the burden of crossing lines of identity in order to find their place in college, and one quote from a student at a small private college describes this difficulty clearly: "I guess it was hard for me at first because I was scared that I was going to be judged by people from another race…I was scared, and so, like if I don't come out of my comfort zone, if I don't build up those connections with other races, I won't have connections in the future…" This quote speaks to the challenge that many first-generation and other underrepresented students feel in balancing their growing identities as college students with the feeling that they are being forced to break away from their home communities into an uncertain and potentially unwelcoming future (London, 1989).

Although students who had difficulty adjusting to the lack of racial and ethnic diversity on their campuses also spoke of the strong friendships they had formed, the challenge of overcoming racial and ethnic differences was most often borne by the interviewees, not their peers who identified with the majority on campus. Even the two Caucasian students I interviewed sometimes struggled to adjust to campus life, finding that they had much more in common with students of color than with other Caucasian students on campus, due to the diverse primary and high schools they had attended in

large cities. Both cited discomfort with White culture on campus, and sought opportunities to bond through first-generation college student groups and academic clubs, where racial and ethnic identities were slightly decentered in comparison to daily campus life. Many of the students were charting a new course for their extended families in going beyond high school, surpassing what their siblings or parents had the opportunity to accomplish academically.

Another common thread regarding identity for interviewees was the difference they felt between their social class identity and the dominant social class identities of their fellow students. One student was deeply disappointed by her early experiences in her residence hall, in which students from privileged families dominated the social culture of the dorm: "I don't even have a shower at my house. So it was a really awesome thing for me to come to college, have a shower, to have a bed to sleep in, to have all these things that I felt really happy to have. But the people there had kind of grown up differently…I felt like I couldn't be here because I was poor and didn't have the same experiences that they did."

Their first-generation college student identity was also a source of great pride for many interviewees. A few specifically mentioned their parents' economic struggles without degrees as enduring inspiration for their own pursuit of college education. One young man described his opportunity to finance college partially with funds from the Development, Relief, and Education for Alien Minors (DREAM) Act for undocumented students as an obligation to his community, a circumstance foreign to wealthy students and those whose parents or guardians have degrees and stable employment without fear

of deportation. A student at a large research university spoke of the honor he felt in having gained admission to a challenging program, and said that his parents "never really got the education they wanted, so they're my motivators to really push myself to do better, to make them proud of me." Two students specifically cited pressure to complete their degrees as quickly as possible, because they needed to contribute financially to their families. One student noted having declined to pursue a double major because it would have required an additional semester, even though she perceived the double major to be a significant advantage in the career she aspired to after college.

Positive Adjustment Experiences

Although students' intersecting identities caused stress in their shifts from life at home as high school students to life on college and university campuses, another common theme in my interviews was that of positive adjustment experiences. Each interview participant described adjustment to college as an active and continual process, which was to be expected because all 14 students I interviewed were in their first or second year as college students. They consistently discussed how they remained optimistic throughout their growth into their own identities as college students. One man described this process as follows: "I don't know if it was really a moment, but it was more of a gradual shift until I realized that I had become perfectly comfortable in my new environment."

A common reason that students cited for their ability to transition successfully to life away from home was the support and guidance of older students. Interviewees cited older members of student organizations they had joined, older students in the classes and

in their academic areas of concentration, older friends from their own high schools enrolled at the same college, and significant others as the individuals who helped them adjust to college life. They described these older peers as role models, as inspirations, as confidants, and as personal supports in overcoming new challenges. One woman described her boyfriend, an older student at the same college, as "my biggest resource too, because he's been here all four years…So whenever I was in those stressful moments…he was just positive about everything and supportive. So he'll just basically say things like 'Yeah, college is hard, but it's college and we'll eventually get through this.'" A student who found himself struggling because of the privileged students who surrounded him at his college found solace in a new group of friends he met who were also not planning lavish international travel for school breaks. This group found common cause in the fact that family financial reasons and, in some cases, family "immigration reasons" meant that they were all staying on campus for spring breaks.

In addition to adjustment help received from other students, interviewees frequently cited their general engagement on campus and specific involvement in student clubs and organizations as choices that helped ease their transition to college. Some of these clubs were identity-centered, like a club on one campus specifically for first-generation college students. Another campus provided a gathering place for Muslim students and a way for them to attend a local mosque when the campus did not offer appropriate religious services. One student joined an organization in charge of planning events for the campus, and she said that she feels "a part of the team" through helping to plan and execute activities for her friends in college. Another student who had recently

transferred from a small, rural college to a large, urban college specifically described the diversity of his new campus as helping him feel "more at home" than he had felt at the first college he attended. Other students cited this environmental diversity factor as the reason they chose the school they were attending, the reason they felt comfortable being themselves, and one of the facets of college life that made them feel welcomed.

Many students also reported feeling encouraged by faculty and staff members at their colleges, as well as relying on institutional supports like tutoring services and career guidance centers. Common threads among the interviewees were the importance of student services and an appreciation for the fact that there was a wide range of services available on campus to help students who struggled. One woman cited a retreat her campus offered free of cost for incoming freshmen and transfer students new to the campus. Another worked alongside professional staff in a multicultural center that she credited for creating a sense of community for students of color. A third student singled out an assistant director of career services as one of the people who had helped her feel connected to campus when her self-confidence slipped. Perhaps the most noteworthy example of the phenomenon of students seeking and finding support from campus staff was a student who excitedly reported that both her admission advisor and one of the financial aid staff members she worked with in her transition to college were formerly "coaches" with College Possible. Knowing two caring adults who understood her background and experiences as a first-generation college student made one aspect of her often-challenging new college feel "like a little piece of home that I felt totally familiar with." Although financial aid can seem like a formulaic part of college attendance for

families familiar with the awarding process and the necessary paperwork, many students spoke with me about the key role financial aid offices and their actual financial awards played in easing their minds.

The final theme related to positive adjustment experiences concerned students' academic experiences. It was certainly not the case that all interviewees found their academic transition to college simple or stress-free, but nearly all the students spoke with passion and excitement about some aspect of their college studies. One man, who was attending his third institution in two years at the time of our interview, is a seeker of new ideas. When the first college and first major he selected out of high school were not a good fit, he transferred to a school he considered an intermediary stop with the purpose of accumulating more credits and better grades for a transfer two semesters later to his current institution. He spoke glowingly of a course he was currently taking regarding personal leadership and the faculty who led it: "Every time I leave that class I just feel like I'm going to do something great one day with what I have right now instead of thinking about a way to make money. I'm going to go into a career that I like and I'm going to make something out of it myself." Two other students spoke about the experience of discovering courses and areas of study they had not been exposed to before college, and finding new motivation upon settling into coursework that they were passionate about. One woman, after talking about feeling lost because she did not know many other first-generation students from poor families, spoke of her newly declared major saying "…this is your passion, this is all *you*. Nobody can take that away from you…" The same student described having to find her way both physically and

emotionally as a college student, because she was the one telling her family at home what college was like as she discovered it for herself, whereas she imagined her peers whose parents have degrees were not as concerned about if they belonged in college. Near the end of her first year in college, she had already found the courage to accept the new, college-student facet of her identity, and she also spoke enthusiastically about claiming her own intellectual space on a demanding campus: "I'm really proud of myself for being a college student because I'm learning and [I'm] here to do the work…I'm prepared in class and I'm ready to go."

Negative Adjustment Experiences

While nearly all the students I interviewed were satisfied to some degree with their adjustment to college life and expectations, the challenges they faced to that point had been substantial. Many students spoke of loneliness, isolation, and self-doubt as common experiences in their first phase of college life, with many new or different systems to navigate than they felt prepared for coming out of high school. The first theme among reports of struggles adapting to college life was related to the physical environments of college life. Many interviewees mentioned struggling to find their way around campuses that are much more complex than their high school buildings. One student went as far as to say he did not yet feel safe in college. When I asked what he would describe as his most important experience as a college student, he replied "Really be aware of your surroundings during your college experience because there are really… dangerous people out there that you don't notice." Another student spoke of an off-campus, service-learning experience near her college, wherein she "was feeling out of

place because the students that are there are mostly White and I just feel like it's not where I should be." Financial restrictions also led a number of students to live with their families and commute to campus, making them feel both physically and socially disconnected from their peers who both studied and lived together. One woman described her initial transition to college as very harsh. She felt overwhelmed by the rush of daily assignments and struggled greatly because she hoped for proactive assistance that never came: "I kind of lost myself, and I didn't know why I was here any more, who I was, and I think my personality started to go, because I didn't really know what I wanted to do anymore."

As noted above, another common experience for interviewees was overcoming the challenge of independence in their daily lives and schedules. One Asian student said, "Along with the fact that I have to work, it's like 'This is crazy'. It was hard for me to adapt into this entire new environment. I thought I was prepared for it, but I was not. It's just sometimes I reached the point where it was too stressful and kinda just like broke down because of it." This student's uncertainty and discomfort echo Yosso's (2005) assertion that collectivist-oriented cultures that value interdependence are often wrongly framed as a deficit a student must overcome when compared to the Euro-American cultural assumption of independence as a positive trait. Many interviewees in this study reported feeling alone and lost in large classes, struggling to connect with peers. One student described a commonly expressed theme of feeling pressured to take personal risks: "In college I feel that you really have to put yourself out there and you really have to push yourself to open your circle of communications. If you don't put yourself out

there, no one's going to know you." This quote was part of a longer conversation in which she described the struggle of being the only person of color in many settings, as well as concern that other students did not understand her culture or her world view. Another student's experience illustrates a personal form of isolation: "Just, sometimes, I wish there were more Muslim students, just so I can relate, because, even though I am involved in things, my experiences are different. I just wish there were more people that were the same religion as me." These expressions of religious isolation added an additional degree of difficulty to the lives of underrepresented students who have already overcome many structural barriers to get to the same classrooms, dorms, and student clubs as their majority-identifying peers.

As expected, though, many of the difficult experiences interviewees reported were framed in positive or hopeful language. One woman, despite having been frequently warned about the challenges of college life prior to enrollment, described to me how different things were for her compared to when she was in high school. She said that college-level learning "really is up to you…your professors aren't like your high school teachers. [Professors] always help you and guide you along the way, [but] you have to be independent and responsible for your own learning." Another student had no sooner described how she often felt that she was not smart enough for college work when her next statement reversed course: "Well, a lot of the faculty, they're always there to help you and support you. They're, like I said, like I have a connection." The same student described struggles making friends in college, but immediately followed that admission with a confident statement that she had been able to make friends with "almost everyone"

once she forced herself out of her comfort zone and took chances by crossing various lines of identity to make connections with classmates. Another student reported almost the reverse, describing the delicate tension involved with balancing social relationships and academic progress. Although she spoke glowingly of her campus community and how many true friendships she had developed in her first two years in college, she admitted that she did not "…really get a chance to socialize anymore or be around people. Now that I'm more focused on what I'm doing, I feel kind of detached from everyone else." She had moved into more challenging coursework in her major, taken on student employment and club involvement that she highly valued, and settled easily into her identity as a college student, but having been able to dive deeply into college life did not mean that this continual process of growth was painless.

Definitions of Belonging

Two of the central questions of my interviews asked the students to define "belonging" as a college student and to tell to what extent they felt a sense of belonging on their campuses. These questions, intentionally framed with as little guidance or direction as possible, are key to understanding if students have common perceptions of belonging. As a result of being prompted only with the question, "How do you define sense of belonging?" students responded with a wide variety of definitions. Some participants defined belonging in terms of physical locations, like the commuter student who described his sense of belonging as being present in an office with services and support designed for students who lived off campus. For him, it was specifically "the location, but not the people." Another student said his sense of belonging was "…mostly

career-based for me. As of now, I just declared my major in theater, and I believe that if I'm going to have a sense of belonging it's going to be in the Theater Department." The student majoring in theater also said that a person needs friends to feel like belonging, but he was clear that his academic concentration and future career were the central factors he considered in defining his sense of belonging.

Another perspective on belonging expressed by a number of students had to do with the physical environment of their campuses, often portrayed in tandem with an emotional response created by the combination of the people and places that had become meaningful to them in their time as college students. One student described her school's Student Support Services office, a TRIO-affiliated program, as her first "…safe space where students can recognize your background…" on campus. She went on to say that the "energy of the campus" helped her feel a sense of place and sense of ownership in her college. Another interviewee used similar phrasing when she said that belonging was a "feeling like you are meant to be there…[you] feel really welcomed and comfortable with how your academic and social life is." Although these sentiments of comfort with a campus community were almost uniformly expressed in similar terms by students attending small, private colleges, the common definition of belonging as existing in relation to community and comfort was not exclusive to small campuses.

Referencing again the concept of intersecting identities, multiple students spoke about belonging in relation to the diversity of large colleges and universities. One man described the difference between his large urban university and the smaller campus he had previously attended by saying that, on his large campus, he saw "a lot of people from

a lot of different backgrounds and different cultures, which makes me feel like I'm more at home." For him, the visual comfort of seeing more people of color made a more meaningful difference than close personal relationships with people who did not share his identities.

Other students defined belonging as a sense of shared values, shared purpose, or acceptance by others in the campus community. Instead of feeling judged by her accomplishments or her actions, one student defined her sense of belonging with her campus as hinging on the fact that she "can actually *be* there and have people support you. Have people accept you for who you are and help you along the way with whatever you do." A woman at an urban, private university said that belonging meant she was "able to be in class and build relationships with your professors, build strong relationships with even your peers." Even the student who had shared her feeling of religious isolation as one of few Muslim students at her university was happy to have spaces where she could go "and be yourself without judgment and feel like your voice is heard whether you're right or wrong." One of the most enthusiastic definitions of belonging tied together nearly every aspect of this student's life in college.

> "…despite you know, maybe facing those challenges that, or doing those crazy things that you've never done before, it's still feeling like you are meant to be there. Or you're more, you feel comfortable, and you're kind of like excited to be a part of what the institution, what your friends, all those experiences have to offer you. And to just, yeah, feel really welcomed and comfortable with how your academic and social life is… Then with my friends, I don't think I would have found the same group of friends anywhere else. They really make me feel like I chose the right place and I'm at the right place at the right time."

The final definition of belonging that many students shared was a link between getting involved on campus and feeling a sense of belonging. Many felt that participating

in class, joining clubs and organizations, and otherwise receiving positive feedback from their explorations of their new college environments helped show them that they belonged. One man reported that his campus climate naturally fostered this sense of belonging among its students, saying that "I didn't know the person next to me, but we started working on an assignment together. I still don't know her name, but that was kind of the sense of belonging that we both had. We could be totally comfortable working with each other even if we had never met before." Another student reported that he belonged within his department at a large university because sharing common "qualities or principles" allowed him to challenge himself among familiar peers without fear of discrimination.

Experiences and Factors Related to Belonging

Sense of belonging was a feeling that students reported as developing through a wide variety of experiences on campus. Like the varied adjustment experiences students reported, their interactions with others on campus were not all positive. One student described great difficulty fitting in and finding his place, as his college courses were too large for him to feel meaningfully engaged, and the connections he was starting to form with older students had not yet resulted in a feeling that he belonged at his university. Several students also mentioned that forming meaningful interpersonal relationships required them to be proactive and push the limits of their own comfort, perceiving that students whose identities aligned with majorities on campus had a much easier time meeting people and finding a group of friends. The interviewees' need to leave their

"comfort zone" was not felt as equitable, even when it resulted in positive relationships as a result of the additional effort.

In addition to these common barriers was a frequently shared feeling that participants did indeed belong on campus. In some cases, they experienced a sense of belonging or community through their coursework. One woman cited her first-year seminar course focused on critical thinking as a place where students all felt comfortable sharing perspectives. Conversations in this seminar course helped her develop a sense that she belonged at the college. Other students mentioned faculty members who made personal connections with them both in and out of the classroom, helping them feel like members of the academic community for the first time. One particularly powerful example came from a student attending a large university. His college within the larger university created a program that paired students and faculty members for social dinners, building personal connections and encouraging both students and faculty to see each other as co-learners. Another student referred to her faculty as "caring and generous," and she felt that faculty and staff at her college were willing to go out of their way to help when they sensed that students were struggling academically or personally. Two students at very different types of institutions also mentioned academic advisors as people who helped them become comfortable in college, an indication that non-academic staff can also help create welcoming spaces for students.

The most common factor that students named as responsible for developing their sense of belonging on campus was interactions within their group of peers. Many of these peer interactions parallel the positive adjustment and integration experiences I described

earlier. Students found belonging in the social and academic clubs they joined. One woman said, “The friendships I made really helped me adapt quicker than I was hoping for.” Initial apprehension about the creation of new social networks was a common one, and many students were pleased with the progress they had made since their first days and weeks on campus. One interviewee felt that other new students of all backgrounds shared some of the same nervousness that she felt at first, and that everyone was gradually able to express their own identities and feel part of the community both through and despite their differences.

Perhaps the most empowering example of this community-building among students was shared by a student at a single-sex campus. “I think that sense of community is really what I love about being here… I don't feel overwhelmed by anything. I feel confident when I'm here on campus.” When I asked her to elaborate on one particular example of an experience that created a sense of belonging, she replied,

> “One of those times would have to be my freshman year. We were in one of my friends' dorms, and I remember a lot of the people I had gotten close to, there were like six of us in one room, and I remember just being really happy and connected with them. And I think that friendship is kind of, I'm going to be friends with these people who I know have my back, and I can have the sense that our friendship will last a very long time…when I did that, I felt like a lot of weight was lifted off my shoulders. I felt that I could do college life and be a college student. It was definitely one of the times I felt like I belonged here.”

Persistence Decisions

Among the 14 students I interviewed, 12 reported that they planned to persist through graduation at their current institution. The remaining two who did not definitively state their intent to persist felt they were likely to remain at their current

institutions, but had not yet made a final decision. Only two participants had transferred to their current institutions from other colleges, suggesting that this particular group was generally satisfied with their initial college choices coming out of high school. The two students who had transferred had each attended two previous institutions. One student was attending his third Bachelor's-granting institution, while the other had attended a community college part-time as a senior in high school to earn early college credits, and then attended a small liberal arts college before transferring to a large public university.

When asked to describe their decision-making processes regarding college persistence, interviewees reported a wide variety of factors that helped them choose to stay at their current institutions, transfer elsewhere, or stop out of college. Some students reported one or two dominant factors in their decisions, and others discussed a number of relatively equal influences in their choices. The five factors cited most commonly were: financial aid and scholarships, academic program, sense of belonging, location, and campus resources. Those students who named financial aid and scholarships among their reasons for persisting often felt that finances were the most important part of their ability to remain continually enrolled in college. For them, the expenses of college without financial aid would have been too much for them to bear, either alone or with the help of their families. The way they described the centrality of financial aid to their experiences and decisions made it clear that college would not be a viable option without generous aid.

One woman had a particularly difficult choice coming out of high school. She was accepted at the school she described as her backup choice college, but she was terrified

about what attending that school would mean financially. Her backup institution had far fewer financial resources than her favorite college, but she had been placed on a waiting list for her top choice when she applied. She spoke openly of the struggles she and her mother faced as they prepared for her to attend her second choice school: “We went to financial aid meetings together. My mom was like freaking out at [the first school], like how are we going to do this, we can't pay 8,000 out of pocket every year…” Luckily for her, this daunting choice was resolved in the best possible manner when her preferred college accepted her from the waiting list during the summer. The college she called her dream school, more prestigious than her backup choice, also had a significant endowment that they put to use alleviating financial aid gaps for students with fewer financial resources. She spoke of this acceptance letter and accompanying financial aid package as life changing: “So [now] I have a lot of really really good financial aid, and it takes a huge burden off to know that I'm not coming out of college with a ton of loans.”

In addition to financial aid, many students mentioned specific academic programs as a meaningful reason to remain at the colleges they had chosen. Their specific career aspirations made selecting a college a slightly more straightforward task than for interviewees who either entered college undecided as to their major area of study, or flexible in their academic interests. In one illustrative case, a student hoping to pursue a career writing graphic novels and animated films wanted to find an institution with both animation and English programs. After initially finding animation degrees mostly offered at fine art colleges without substantial language departments, she was thrilled to come across a liberal arts college that offered both areas of study. Another student was very

proud of having been accepted to a prestigious business college within a larger university, and said that initially choosing, then deciding to stay at, his college was a source of pride for him and for his parents: "[My parents] never really got the education they wanted, so they're my motivators to really push myself to do better, to make them proud of me." A third student reported a slightly different version of this point. She knew, coming out of high school, that she wanted to pursue a career as a physician but did not settle on a pre-medicine major until the end of her first year. She spoke with me about becoming passionate about health disparities, and found her academic home in a Public Health program that her college offered. As she settled into the perfect academic fit, her choice to stay at her college became simple.

Other common responses regarding persistence factors were often interwoven with each other. These factors were described as a sense of belonging on campus, happiness with the campus atmosphere, a feeling of comfort and safety with peers, ease of interaction with faculty, and other similar social dynamics. When interviewees cited social factors, they most often credited their student peers for helping them feel comfortable, welcomed, and accepted at their chosen institutions. One woman described this peer motivation as particularly important in moments when she doubted her academic abilities. Another student said that his peers made their college campus feel "just wonderful. The students were all just very relaxed, very cool, very supportive…" He went on to describe his sense that although he was not among the more popular students on campus, the general atmosphere of the place imparted a sense of openness and acceptance, and he enjoyed the "shared comfort" his fellow students brought to the

college experience. Even geographic isolation, in the case of the man who reported being one of very few students from an urban high school at his college, could be overcome when students developed a sense that they were socially supported as college students. Although not many students listed social-comfort factors as their primary reasons for persisting, every one of the 14 interviewees mentioned one of these reasons as part of their decision-making process.

Location was another commonly reported reason for students' college persistence choices, in one sense or another: students who chose institutions near home and students who intentionally sought campuses far away from home. College attendance already represents a significant departure from the experiences of many first-generation college students' families, and so I expected to hear more from students like the man who briefly debated attending a school with his chosen academic program five hours from home. Although he was impressed by the courses offered by institutions far from home, he explained that "… family and friends are mainly what ties me to a place and why I want to stay close to home because I'm not the type of person to take a leap of faith." For other students, moving far away from home was never a realistic option, because living at home with their families reduced the cost of college attendance significantly. Even though choosing to attend school as a commuter student meant feeling less connected to her peers than she had hoped, one woman described attending college close to home as her only real option. One of the two interviewees who had transferred to a new college knew that living at home meant that he could relieve the financial burden that his parents bore when he initially chose a residential private college farther from their home. In his

family's case, it was much cheaper to add the incremental costs of an additional person to the daily household expenses than to pay the costs associated with living on campus.

Students who made enrollment and persistence decisions based on distance were not, however, always looking to stay close to home. One student found herself very happy with her choice to attend a college "not *very* far, but kinda far" from home because she was able to build a new network of friends after few of her high school friends chose the same college. Another woman intentionally sought a school out of state, because she felt she would grow more as a person and as a student if she intentionally chose independence from her close-knit family. She did not want to reduce the intimacy of close relationships with her siblings and parents, but she told me she "wanted to really see what I could do on my own." One particularly high-performing student was awarded a prestigious scholarship only available to first-generation students from families earning low wages. This scholarship paid the full cost of attendance for recipients through a combination of scholarship award and funds from the highly selective institutions at which the students were matched. When he was matched with his top choice far from home, he was thrilled. His family had come to the United States as refugees, so the idea of traveling far from home was not a deterrent for him or for his parents. The most unique college selection process was described by a man who felt great pressure from his parents to go along with the preferences they expressed for him. His parents' primary concern was that he remain close to home, although he did not say if that also included living at home. When his first choice of college was deemed too far away from home to be acceptable, he settled for a nearby private institution in hopes of finding a place where he

could still be content. He discovered that the academic major he and his parents had jointly selected was not where he found inspiration, and he transferred to another nearby public institution. His expression of personal freedom came from making choices within a set of options bounded by geography.

> "My college transition decisions were made basically on how I felt when I was there. I just kind of, all I did basically was go to the school at first, sense how it feels and if I liked it I would stay and, if not, I would just walk away. I just developed, you know, I'd wait and develop something out of it and then want to stay or not. But I was just, other than that, it was just basically passion and instincts. It wasn't that big of a calculation, either go or come back."

Campus resources were the final category of persistence factors common to many of the interviewees. Academic support was the most often named as influential in the interviewees' experiences as college students. In some cases, students expressed gratitude for specific faculty members and their approach to advising. Students noted the personal commitment to student success that their professors demonstrated, either by putting together engaging class sessions and materials, or by taking time out of their personal lives to connect with students. Experiencing college coursework as much more difficult than high school course work, another student expressed gratitude for the free tutoring resources available on campus, saying that she felt reassured knowing she could get academic support in nearly any field. A student attending a rigorous college was thankful for academic advisors who made themselves easily available to students struggling with decisions about course enrollment or searching for study resources outside of those arranged by faculty members. An interviewee who joined an organization at her college for first-generation college students spoke very highly of the importance of the physical office set up for the group to use. She described the value of having a place to go filled

with resources designed for the intersectional challenges faced by first-generation and low-income students at her campus, describing the group fondly as “my people.” One woman highly valued the advice she received from a career counselor at her college, observing that the staff members in that office frequently went far beyond inquiring about a given student’s career aspirations to discuss family situations, travel, and other personal matters that might be affecting the way a student was approaching planning for their long-term future.

The remaining factors students credited for helping them decide to persist varied widely, from the size of the campus (large and small campuses were of value to different students), involvement with campus clubs and organizations, the reputation of the college they had chosen, the diversity of the campus community, and the nebulous sense that “It just feels right. And it's kind of weird to say because it just feels right and what does that mean?” After all, when belonging has as many definitions as the number of people describing the phenomenon, one’s gut feeling might be as valid a measurement tool as any.

Integrated Conclusions

In order to consider the findings from both approaches I used in this mixed methods study, I review the central findings from the quantitative and qualitative portions of the study, to ascertain to what extent the findings may support or refute each other.

Central Quantitative Findings

The central findings of the quantitative portion of the study come from the regression modeling of the research question, as well as comparisons between and among the persistence choice variables describing students' hopes and plans for their future college enrollment. The overall trend regarding persistence from the respondents in this study is that wanting to or planning to leave their current college or university is rare. This finding is also reflected in the interviews, as nearly all those interviewed say very clearly that they plan to remain enrolled at their current institution through graduation. With the overall persistence rates from the 2015-2016 school year to the 2016-2017 school year of students participating in College Possible's Minnesota site over 80 percent, and the majority of participants in this study attending colleges and universities in the upper Midwest, these findings appear to be an approximate reflection of the general student population of College Possible. The possibility of self-selection bias always exists, in that students who are happy at their chosen colleges may be more likely to complete the survey, and, furthermore, to both volunteer to be interviewed and follow through on the invitation to interview.

The findings of greatest importance from the survey regard the factors found to influence students' reported structural fit and sense of belonging with their respective colleges, as well as the main research question of whether or not sense of belonging carries any predictive validity after controlling for other factors of fit and situated context. In this study, bivariate logistic regression indicates that fit and belonging are significantly associated with students' reported hopes and plans for college persistence.

Factors measuring sense of belonging are statistically significant for students' persistence desires, but not significantly associated with students' reported persistence plans.

The subsequent multivariate logistic regressions support the central importance of structural fit factors in participants' persistence desires and plans. Three of the four structural fit factors are significantly associated with persistence desires, and two of the four fit factors are significantly related to persistence plans. This finding stands in contrast to the sense of belonging scale, which is not statistically significantly associated with either persistence desires or plans once the structural fit and situated context factors are held constant in a multivariate regression model.

The interpretation of this difference between persistence hopes and plans is supported by the interview analysis. Students describing the ways they make decisions about college persistence often cite structural fit factors as the most important reasons in their persistence decisions, and describe sense of belonging as important but secondary. Financial aid, one of the aspects of fit, is the most commonly cited reason that students report for their ability to remain continuously enrolled at their chosen institutions. Although many of them discuss belonging as a reason they stay where they do, it was very rare for sense of belonging to supersede finances, academic fit, or availability of relevant resources as a reason a student choose to stay.

Central Qualitative Findings

In addition to the information students shared regarding their persistence decisions and factors, it is clear that the term *sense of belonging* holds varied meanings for participants. The best summary of the term is that campuses either "felt right" or

students are comfortable in their environment, but coming to those conclusions is the result of different sets of factors and their relative importance to each student. For some, comfort comes from a shared sense of community with peers. Other students speak of comfort (or discomfort) as the result of physical surroundings and relative familiarity with campus. Some attend college with friends they knew from high school, and others have created entirely new social networks. Comfort comes both from being close to home and from venturing far from family to create a unique path. Some students feel they belong at their colleges due to faculty and staff who demonstrate their caring concern for students, while others feel they belong because the urban or rural areas around their respective campuses contain what they are looking for in a place to live.

This central qualitative finding of the diversity of experiences and factors that could lead to equivalent feelings of belonging in college is supported by the quantitative data gathered in the survey. Specifically, the multivariate regression models that describe the independent scale variables for structural fit and sense of belonging support this interpretation. Among the five fit and belonging factors examined in regression models, the scale for sense of belonging due to campus environment has statistically significant association across all four categories of situated context control variables: institutional characteristics, student academic experiences, student extracurricular experiences, and demographic variables. Interestingly, very few of the personal demographic variables are statistically significant, suggesting that student experiences and academic characteristics might play a larger part in determining if a student is likely to report high levels of belonging than factors that describe students' identities.

Chapter 5
Implications and Future Research

Students from low-income families often face substantial barriers in their paths toward college-degree attainment, and the odds against their college completion are substantial. In an effort to combat these trends and work toward a more equitable future for our nation, many college access and success programs have been working diligently in recent years with students whose families earn low wages. Students from one of these programs, College Possible, participated in my study that examined the college persistence decisions of current college students, looking for indications of whether or not a student's sense of belonging on campus can be seen as related to their decision regarding whether to persist at their chosen college. My study involved the sequential mixed methods of a web-based survey, followed by individual interviews. Nearly 700 students completed the anonymous survey of College Possible participants, and the responses of the 628 students who were actively enrolled at the time of the survey were analyzed to detect statistically significant patterns. Following the survey, 14 students completed individual interviews with me after volunteering their contact information on the survey.

The research question that prompted my study was: *What are the relative roles of structural fit and sense of belonging within the persistence choice process for students whose families earn low wages?* The results indicate that sense of belonging may indeed be statistically associated with persistence desires, as well as a component of persistence

decision-making processes. This finding, however, is moderated by the other inter-related factors that grew out of participants' reported experiences in college. When controlling for other factors related to fit, institutional characteristics, student experiences in college, and demographics in multivariate logistic regression models, sense of belonging loses its statistical significance. This quantitative finding was supported by interview findings.

In interviews, students shared personal experiences, including ways they struggled to find their footing as college students, aspects of their respective campuses that they enjoyed, and a number of experiences that gave them great pride in their accomplishments. Most of those I interviewed felt that they belonged on their campuses, and they were looking forward to the rest of their time as college students. They also confirmed the central finding from the survey by naming fit factors like their financial aid awards when discussing their reasons for remaining in college. It was rare to have a student report that social factors like sense of belonging or general happiness in a college community were the primary factors in their persistence decisions, supporting the series of regression analyses that reduced and then eliminated the statistical significance of belonging scales when other control variables were added to each subsequent model. Belonging was certainly important to the interview participants, but it was not the reason most of them had chosen to remain enrolled at their current colleges.

The interviews also supported the survey finding that students with lower sense of belonging scores were more likely to want to leave their current institutions. The two students who had transferred from their initial colleges to their current institutions both described their first schools as places where they did not feel they belonged. One man

was uncomfortable being one of few students of color on a rural, private college campus and transferred to a large, urban, public institution after his first semester in college. The second student defined sense of belonging as a combination of the right feeling in classes related to his major (which also changed along with his institutional transfers), and a gut feeling about whether he liked the way he felt at a place. This combination proved difficult for him to resolve into a feeling of full belonging, and he was attending his third college at the time of our interview.

Discussion

Many of the findings of my study support and in some cases extend earlier research. The first and most obvious comparison to previous literature is in relation to studies that focus on college persistence decisions. Both St. John (1990) and Nora and Cabrera (1996) find that financial aid is a central factor in students' persistence decisions, and another foundational study for my research (St. John et al., 1996) describes financial aid sufficiency as a factor in college enrollment behavior that impacts both initial enrollment and subsequent persistence choices. Similarly, both qualitative and quantitative results of my study indicate that financial aid is a central concern for students reporting both their hopes and plans for college persistence.

My research findings also support and extend Pascarella et al.'s (2004) finding that financial aid is a factor that significantly predicts differences in college persistence by first-generation status. Similarly, Hurwitz (2012) finds that low-income students are more likely to be affected by need-based grant aid than other groups of students, a finding

also supported by the central importance of financial aid to the participants in my study. The results of my interviews illustrate this link clearly, as many participants name financial aid as the primary reason they are able to continue their academic journeys in college. Another aspect of persistence choice reflected in my study is the centrality of a student's satisfaction with their initial college choice. Schreiner and Nelson (2014) find that a given student's satisfaction with their choice of their current institution accounts for between 35 and 37 percent of all variation in the likelihood of students reporting a desire to remain enrolled at their school, and is furthermore a valid predictor of their actual uninterrupted persistence as reported by the institution the following term.

Another foundational work for this research, Perna's (2006a) conceptual model including situated context in an economic college choice process, is supported in this study. The factors students considered in their individual college persistence decisions vary by institution attended and also by student within a given institution. Even controlling for some socioeconomic demographic factors by inviting participation from a single college access program does not result in uniform persistence desires and plans, a finding predicted by Perna's model. The mixed-methods design of my study allows the individual stories of a small group of students to be added to the large-scale quantitative analysis of persistence decision-making. These students are each making rational choices by weighing the relative costs and benefits of continuous college enrollment, but the factors that matter the most for each of them differed based on their unique, situated context.

My examination of the role of affective sense of belonging both supports and challenges Strayhorn's definition -- a feeling strong enough to influence decisions and actions (Strayhorn, 2012b). Although students' reports of the presence or absence of belonging with their campuses consistently shone through as affecting their desires to remain enrolled at a given college or seek other opportunities, it cannot be said that participants in this study were making persistence choices motivated primarily by their sense of belonging. Strayhorn's (2012a, 2012b) discussion of the externalities related to sense of belonging may have been at play in this research as well. He described belonging as affecting other related constructs such as students' reported satisfaction with their college choices. In my research, student satisfaction with their current college was significantly correlated with sense of belonging due to general campus environmental factors, and satisfaction with college choice remained the most highly significant predictor of college persistence hopes and plans for the participants in my study. Findings from the interviews I conducted also support this connection between belonging and satisfaction with choice, as students often described their recurring persistence decisions in terms of how happy they were with their initial choice to enroll at their institutions.

Many of the first wave of studies of sense of belonging for college students (Hausmann et al., 2007, 2009; Hurtado & Carter, 1997; Nora & Cabrera, 1993) find sense of belonging to be a deeply complex topic, difficult to define succinctly and difficult to apply uniformly across students. This study adds additional strength to their findings through the vast array of factors found to be significantly associated with students'

reported sense of belonging as well as the wide variety of facets of their college experiences students described in interviews as related to belonging.

The interviews I conducted as part of this mixed-methods inquiry also support Stieha's (2010) assertion that student experiences are best validated through research methods that center their stories and self-definitions. Individual student accounts of their adjustment to college and development of sense of belonging validate larger trends found in previous research. First, the man who spoke of the identity-related boundary crossing he did on campus as a first-generation White student from a low-income family was a reflection of a study that finds that White first-generation students fit in more easily on campus than first-generation students of color (Woolsey & Shepler, 2011). Another interview participant vividly described her struggle to find others who could relate to her initial adjustment challenges, which supports the finding that first-generation students have fewer opportunities to process stress effectively than their continuing-generation peers (Barry et al., 2009).

The student who intentionally sought, and found, a rewarding sense of community at a college far from home is an example of studies that describe the importance many students place on creating their own space as they adjust to college life (e.g., Ceballo, 2004; London, 1989). The opposite is true for other interviewees who want or need to stay close to their families while attending college, supporting previous studies (e.g. Turley, 2009) that find first-generation and low-income students are highly likely to remain within a small radius of home. Multiple interview participants also spoke of the importance of their college studies to their families and greater community, validating

earlier research that describes the deep value of communal motivations and interdependence of first-generation students (Stephens et al., 2012) as an alternative to the European-American cultural preference for individuality and independence.

Another concept reinforced by many participants is the idea of the shifting nature of belonging due to the intersectionality of identity (Orbe, 2004). Many students described feeling comfortable in certain settings on campus like student clubs based on identity affiliation, while also struggling to belong in spaces like dormitories and residence halls where other facets of identity dominated social norms. The fluctuating experiences and gains and losses of comfort reported by students in my study support earlier scholarship by Lehmann (2007) and Pike and Kuh (2005) who describe concepts of class and culture discontinuity for students who do not identify with the majority cultures on their campuses. Participants in my study, even those of the same ethnic background, describing the same campus, felt very different about similar spaces and which aspects of their college experiences validated or challenged their salient identities.

One finding in my study that merits additional consideration is the significance of the selectivity of the institution a student attends. In my study, the more selective a college attend, the less likely a student is to report wanting to or planning to leave, mirroring Titus' (2004) findings regarding selectivity. McDonough et al. (1997) find that elite college attendance translates to students perceiving greater direct and indirect benefits of attendance, as they project both their future degree and the networks they are building at these selective institutions as valuable to them. McDonough et al.'s (1997) finding is not supported in this study, as crosstabulations comparing selectivity to

perceived college completion benefits show that students attending the most selective category have the lowest percentage (54.3 percent) of participants rating their perceived benefits as eight or nine out of ten possible points. Students at inclusive campuses and moderately selective campuses total 58.5 percent and 59.6 percent, respectively, who rate perceived campus benefits as an eight or a nine on the same scale. McDonough et al. (1997) find that non-elite college degrees are more likely to be perceived as directly valuable for increased job opportunities and earnings. My findings also refute another study related to selectivity. Nora's (2004) study finds that undermatching of students by institutional selectivity is predicted by gaps in cultural and social capital by social classes. In this study, however, there are more students attending selective institutions (N=254) than students attending moderately selective (N=194) or inclusive and open access institutions (N=177). This observation may not accurately reflect the overall population of students in College Possible, however, as the lack of high school GPA and ACT data available to me precludes measurement of undermatching based on admission criteria.

This research adds to the growing body of literature regarding educational disparities in its focus on students from a particular college access and success program. It is also distinguished from other studies on persistence choice by allowing the experiences and stories of students from low-income backgrounds to stand on their own without comparisons to stories from other demographic groups of students. I believe it is important not only to pursue understanding of the comparative gaps in college completion based on family income and family educational history, but also to honor the lived experiences of students as valid without comparisons to other groups of students to

validate them. I strive to de-center my intersectional privilege as a White, middle-class, heterosexual, able-bodied and cisgendered man through research methods that minimize the amount of pre-definition applied to participants' experiences whenever possible, and I hope this research lives up to those aspirations.

Implications for Theory

The first implications my study has for theory development align well with the continuing study of student decision-making regarding college enrollment. Following Perna's (2006) model which helped scholars frame initial college enrollment decisions within each student's situated context, my study builds upon those foundations by relating this same contextually-informed examination of initial enrollment choices to the persistence choices of students from families earning low wages. Just as students from a wide range of family income and academic profiles can be expected to have unique factors weighing on their college decisions, my findings suggest that there can also be substantial differences between and among students who have much in common. All of the participants in my study are from low-income families, and all are participants in the same college access and success program with a unified curriculum. Despite these shared circumstances, shared financial demographics, and shared cohort sessions and coaching models, interview participants each had a different approach to deciding whether to persist at their given institutions. There are detectable patterns such as the primary importance of financial aid in their ability to remain continuously enrolled, but even

students attending the same institution and participating similarly in College Possible have substantial differences in their approach to their personal college choices. These differences could be said to stem from their unique situated context, which would predict that general trends might not apply equally to each person.

The next area of theoretical importance in this study is the concept that initial college enrollment and persistence decisions might be extensions of evolving assessments of fit and belonging, not simply discrete decisions made sequentially. When educational scholarship first explored the concept of a "nexus" between initial enrollment and persistence (St. John et al., 1996), the factors studied were primarily structural in nature, with financial aid predictably rising to the top. My study extends this approach and combines the underlying structural fit calculations with evaluation of sense of belonging. While theory has not yet delineated to what extent each of these factors is separate and unique, the finding of significant predictive capability for sense of belonging implies that further study of college enrollment decision factors is warranted.

In a related vein, my study supports Strayhorn's general scholarship regarding sense of belonging (e.g. Strayhorn, 2008a, 2010, 2012a), but I differ from his interpretation of affective sense of belonging. In Strayhorn's work, this concept of sense of belonging describes the power that belonging has to influence choices. Although my study shows that belonging does indeed impact the persistence choices of participants, I would argue that affective sense of belonging may be more likely at play in decisions about how a given student interacts within a college environment, instead of directly influencing whether or not a student will choose to leave that environment. When the

results of both interviews and surveys in my research show the statistical significance of sense of belonging in relation to persistence, that effect is primarily seen as a single associated factor or single descriptor of a student's hopes and plans. When other factors were also discussed in the interviews or added as controls to the regression models, belonging is no longer significant, falling behind structural fit factors like financial aid and academic performance. In fact, the highly significant factor of the level of support a student feels from their family regarding their college choice may further muddy the conceptual waters. The link between family support of a student's college choice, that student's feeling of belonging at a given institution, and her or his likelihood to report satisfaction with their college enrollment choices is an area of theory that warrants future research.

All of these findings regarding sense of belonging are interrelated, as the concept itself remains highly complex and difficult to describe parsimoniously. Rather than simplifying a standardized definition of sense of belonging, my study deepens the understanding of belonging as an intricate and highly personalized judgment. Along with structural fit, belonging appears to have general statistical associative value despite its lack of a unified theoretical definition. Some students felt that their relative sense of belonging was mostly due to structural fit factors, and described belonging in terms of quantifiable and observable characteristics and outcomes. Other students described belonging in very emotional terms, and explained belonging as an evolving feeling that fluctuates based on other circumstances and even based on shifting interactions with their campus environments. The wide variety in the ways students defined belonging leads me

to believe that sense of belonging is indeed a vital building block upon which a successful academic career is built. The concept will require flexibility in further theoretical development, not essentialization.

Implications for Policy

Financial aid, both at the institutional and at the state level, is the area of policy with the most direct implications drawn from my study. The importance of financial aid is a constant thread through many of the findings presented here. Financial aid based on need has been found to increase college persistence (Chen & St. John, 2011) and degree attainment within six years of initial enrollment (Castleman & Long, 2013). For the students who participated in my study, financial aid was often cited as a key factor in their persistence choices. Financial aid is typically made available based on two considerations from the organizations that grant it: merit-based aid that requires demonstrated accomplishment or performance, and need-based aid that requires demonstrated financial hardship. Although many students from families earning low incomes and other first-generation college students are high achievers in the classroom, in the arts, and in other areas like athletics where scholarships are awarded, the growing institutional reliance on merit-based aid as an enrollment tool has proven to have mixed results in terms of college access (e.g. Farrell & Kienzl, 2009; Heller & Marin, 2002; Long & Riley, 2007; Monks, 2009; Ness & Tucker, 2008). When merit-based awards are tied to measurements like standardized test scores, continuing-generation students and wealthy students whose access to a college education is not in doubt are those who often

benefit the most financially (Hahs-Vaughn, 2004). In the competitive marketplace for college admission and enrollment, merit-based aid often attracts families with greater economic means, preventing students from low-income backgrounds and other first-generation college aspirants from being accepted or being financially able to enroll.

My study stands as an additional example of the importance of equitable financial aid that can help reduce college completion disparities. Students whose basic ability to attend college rests heavily on financial aid awards are those most deserving of the generosity of institutions, community organizations, and government funding. I am not arguing against the utility of merit-based awards as an incentive for students to strive to attain outstanding results in the areas of their passion. I am, however, advocating for programs to use awarding criteria linked to demonstrated financial need. The societal shift toward individual responsibility to fund higher education has been a detriment to an equitable admission and enrollment process. Society will benefit more from improved access and completion for low-income students than it will from raising the already-high rates of completion of wealthy students. Students with annual family incomes below the national average of approximately $70,000 should not be expected to carry greater personal debt for their degrees than their wealthy peers. A post-secondary degree is now the standard for maintaining a middle-class lifestyle. With the cost of college attendance increasing at a rate exceeding both inflation and income, it is unreasonable to burden low-income families with college loans that exceed their annual income levels.

A second policy implication related to financial aid is the issue of state funding of higher education, whether directly to students or indirectly through institutions to

students. States that have moved toward high-tuition high-aid policies have seen increases in the real costs of higher education for students (Weerts, Sanford, & Reinert, 2012). In addition, states that couple this reduced institutional funding approach with merit-based state financial aid programs have compounded this inequitable outcome. These states have experienced persistent and sometimes growing achievement gaps by income and race or ethnicity (Weerts et al., 2012). The state in which the greatest number of participants in my study attend college demonstrates a consistent approach of funding higher education as a rationale for sustaining a strong and flexible economy. Not coincidentally, this state has a strong state grant program that is need-based and available to all state residents who enroll at colleges in the state. Given the crucial role that financial aid availability plays in the college enrollment and persistence decisions for students from low-income families, the results of this study support the implementation of need-based programs both at the institutional and governmental levels.

Implications for Practice

At a time when students with highly educated parents have a 500 percent higher rate of enrollment at selective colleges and universities than first-generation students (Astin & Oseguera, 2004), it is clear that college admission practice must be re-shaped if we are to reach a more equitable state in our college attainment as a nation. In my study, students are likely to want to and plan to remain at the college they first choose out of high school, and institutional characteristics play a significant part in predicting the success of their students. This combination of findings leads to my recommendation that

colleges and universities be held to higher standards in recruiting and enrolling incoming classes that reflect the racial, ethnic, and economic diversity of our country. We will not reach an equitable future until our college graduation ceremonies are reflective of the demographics of our kindergarten classrooms. Unfortunately, the so-called educational pipeline carrying students from kindergarten through college completion has many holes through which first-generation and low-income students currently fall. Admission recruitment philosophies that do not honor the immense potential contributions of all students will only succeed in cementing the declining equity of recent decades.

College access and success programs would serve their students well by developing strong connections with selective colleges and universities of interest to their students. Without parents who are well versed in the intricate courtship dance of college enrollment, first-generation and many low-income students often miss advantages like requesting reconsideration of an initial financial aid offer. Access and success programs can often fill this experience gap, but students being marginalized by systems set up to replicate advantage deserve not just the opportunity to catch up to their privileged peers, but also the opportunity to have well-connected advocates in their pursuit of college education. Access programs that build professional networks with colleges and universities might be able to replicate the recruitment advantages of highly resourced high schools, wherein college admission officers give additional consideration to students affiliated with the "right" school. College access programs could become feeder programs to institutions with higher completion rates, institutions with advantageous financial aid, and institutions able to consider applicants' holistic promise in addition to

their recorded grades and test scores. The participants in my study overcame the national trends regarding college enrollment for low-income students, and a far greater percentage than would be generally expected were enrolled in selective institutions. Studies like mine that demonstrate students with higher persistence rates than national or institutional averages bolster the case for funding access programs that can act as mechanisms of improved equity.

Another area of practice with implications drawn from my study is that of student affairs and student support on college and university campuses. Contrasting scholarship findings that students are best served by "breaking away" from their families in order to succeed (e.g., London, 1989), the sense of belonging that participants in my research was not disconnected from family life. Students in my study found belonging in their college communities that more closely reflects research suggesting that students succeed *because* they remain close to their families, not *despite* remaining close to their families (Ceballo, 2004). Students who are encouraged to build and maintain networks not only of their new college peers, but also with their families and home communities might very well achieve far greater success than those encouraged to change their worldviews and aspire to independence and personal goal attainment. Benmayor found a similar sense of communal strength among first-generation and Mexican students on a campus in California who measured their success "not by individual class mobility or increased economic power, but by the collective advancement and well-being of their subordinated communities." (2002, p. 98).

On college campuses wherein social class differences are rarely discussed, let alone valued on the same footing as lip service declarations of the importance of racial and ethnic diversity, programs such as the "difference education" model (Stephens, Hamedani, & Destin, 2014) and living-learning communities (Jehangir, 2010; Jehangir, Williams, & Pete, 2011; Yosso, 2005) focused on shared experiences and promoting the egalitarian aims of multiculturalism may help create the conditions in which students find a sense of belonging that can improve other aspects of their college experiences.

Another model of support gaining popularity is known as intrusive advising, the practice of advisors actively pursuing opportunities to discuss successes and challenges with students outside the typical annual visits required to submit degree plans or obtain course registration passwords. Many students struggle in the transition to the more adult realms of higher education, not having practiced the valued skill of help-seeking behavior before college. Intentional advising and mentoring programs that provide not only encouragement but also role models for first-generation and low-income student success (e.g. Edmonson, Fisher, & Christensen, 2003; Folger, Carter, & Chase, 2004) could be implemented at a relatively low cost to institutions by re-training existing advising staff toward proactive outreach to students.

Lastly, findings from my study support the expansion of programs such as strengths-based assessments and community building activities during occasions like new student orientation. These intentionally inclusive programs hold the potential to help students see that their personal struggles as well as their personal triumphs are shared with others. Participants in my study often made reference to pivotal moments in their

developing stories of college success wherein they made genuine connections with other students in unexpected times and places. This finding suggests that formal programs prioritizing and valuing interpersonal connection and community-building could very well translate to more a more general sense of welcome from which historically disadvantaged students stand to benefit greatly.

Limitations

The primary limitation of my study was the self-selected nature of participation. As with any study that is not required of each member of a group of prospective participants, it is difficult to know with certainty whether the results gathered from those who chose to complete the survey accurately reflect the results that would have been obtained had the entire population of interest participated. In this case, a reasonable percentage of total college students in College Possible with valid email addresses chose to participate, giving me relative confidence that the results are indicative, even if they are not perfectly representative, of College Possible college students.

This study also has limitations if others are seeking to extend my findings to all college students from families earning low wages. First, supplemental programs intended to improve low-income students' college going and college persistence rates cannot serve all students from low-income families. Although one randomized control trial found that the college access phase of the College Possible program had significant effects on college-going behavior (Avery, 2013), no such research has been conducted with students in the college phase of the program. Second, there are many areas of the country that

were not represented by the participants in my study. College Possible is only available to students in six states, and this study only included students attending 128 institutions out of the over 4,000 colleges and universities in the country. The number of institutions not represented in my research suggests that regional differences in college experiences may not have been captured adequately in this study.

Another limitation of this study was the single-instance nature of the survey responses and individual interviews. Without the ability to verify college enrollment in the academic term that followed the data collection, it was not possible to compare the reported desires and plans with actual enrollment behavior. Without the benefit of enrollment verification, it is not possible to know whether all of the students' hopes and plans for persistence came to fruition in the fall. I sought to mitigate this risk by conducting the survey and interviews during the time in the spring term during which many colleges require, or at least make available to students, registration for the coming term. Without the ability to verify subsequent enrollment in the fall term, recording students' plans related to persistence during their registration period is the most accurate proxy I could arrange.

Due to the significant length of the survey, I chose not to include additional demographic and academic variables that may have helped build regression models that might explain an even greater amount of variance in persistence decisions. For example, previous research has established some of the effects of high school grade point average and college entrance exam scores on college outcomes. Due to both my desire for a survey students would be happy to complete, and the likelihood that past high school

academic measures might be incorrectly remembered or incorrectly reported, I chose to focus the survey instrument on collecting information related to the current and most recent academic years in college.

Directions for Future Research

I can see a number of potential studies that could advance and expand upon the results of this research going forward. The first potential research direction I recommend would be a longitudinal version of this study. Though I was able to capture associative data of considerable depth through the combination of a survey and individual interviews, the ability to follow cohorts of students over multiple academic years would be valuable. Comparing students reported hopes and plans to their actual persistence decisions over time would help reveal possible enrollment trends and establish individual comparison points. It would be interesting to track potential changes in each student's situated context, perceived structural fit, and perceived sense of belonging. While there is value in the ability to capture a moment in time and a student's journey up to that point, it could be fascinating to see how the same students reported changes in their situated context in comparison to their persistence hopes and plans over time.

Another permutation of my study that could yield valuable results would be a study of college access program participants who did not persist. Some of these students make their way back to active enrollment in college, while others are unable to continue their pursuit of degrees for various reasons. If we are to increase the completion rates of students from low-income backgrounds, we will have to understand not only how to

increase the odds of success for enrolled students but also how to ease re-entry into higher education for students who have stopped out. A number of currently un-enrolled students participated in my survey, but their results were not able to be included with the enrolled students. My dependent variable, persistence choice, measured whether or not students hoped to and planned to remain enrolled, whereas un-enrolled students' main concern is whether or not they hoped to and planned to re-enroll in college. Updating a survey like mine to capture the different set of options and experiences un-enrolled students are likely to report would help illuminate their stories and develop more nuanced theory about pathways back into higher education for those who have departed.

A third future study could compare participants in other access and success programs using metrics similar to those I developed for this research. College Possible was an interesting first case for testing the theory development in this study, due to its rare combination of college access and success support within a single program, as well as its presence in many cities and states across the country. Inviting the participation of students through other college access and success programs with varying foci could help to illuminate broader patterns in college persistence decision-making among first-generation college students. Involving students from access and success programs active in other parts of the United States might also help clarify whether regional and institutional factors carried differing significance for students.

Finally, bridging theory and practice, I recommend that future research compare the features and programs that colleges and universities design for and offer to their students who identify as first-generation college students and as members of families

earning low wages. A typological survey of this sort, comparing persistence and completion rates at various institutions, could help practitioners better understand which features of college campuses and their available programs and services are most likely to improve the experiences of their under-represented and marginalized student populations. Higher education institutions are often required to report differences in persistence and completion rates by demographic groups, and such a study would be both morally justified in seeking to alleviate historic injustices, and also fiscally responsible in helping to avoid funding campus programs and services that do not reduce the disparities many find unacceptable.

It has been an honor to undertake this study with the participatory support of so many kind and generous students. I hope that the work presented here validates their experiences as vital and meaningful to others. I hope these findings encourage first-generation students and those whose parents are earning low wages to celebrate the historic steps they are taking, not only for themselves, but also for their families and our shared communities. Their eventual college completion will lead to a better future for all whose lives will be improved through the brilliance and selflessness our rising young leaders are already demonstrating.

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Appendix A: Web-based Survey

As you know, choosing which college or university to attend is a very important decision, and students at all colleges and universities have to make choices each academic term about whether to continue at that college or to go somewhere else to continue their studies. Some students transfer or take time off during college, and then decide when and where to enroll again when the time and place are right.

I am conducting a study to find out more about how students make their college enrollment decisions. This study is part of my PhD work at the University of Minnesota. The results of this study will be the basis of my dissertation and might be included in subsequent academic presentations or publications.

You have been chosen to participate in this study as a member of College Possible. We would love your input, and it will only take 15 minutes to fill out the survey!

Please know that your classmates, friends, and College Possible coach will not see your personal responses. Participating in this study is completely voluntary. You may choose not to take part in the study and you may stop participating at any time, for any reason, without penalty or negative consequences. There are no anticipated physical or psychological risks associated with completing this survey, though some questions may be considered sensitive. All results will be presented in terms of group-level finding, except any optional personal interviews that may be included following the survey. Individual identities will not be reported, and published results will not refer to any individual or institution by name. This project has been approved by the Institutional Review Board at the University of Minnesota, Twin Cities.

If you have any questions about this study, please contact me via email (snyde592@umn.edu) or phone (650-353-6986), or contact my advisor, Professor Melissa S. Anderson (mand@umn.edu).

Your participation is critical to this study, and I thank you sincerely for considering my request to fill out the survey. If you choose to participate, please click “next” below to begin the survey.

With gratitude,

Seth C. Snyder

NEXT

A) College Details (control and/or comparison variables)

1. Are you 18 years old or older?
   a. Yes
   b. No

2. What is your current age? _____[if response is "17 or younger," survey will terminate and the participant will be thanked with an explanation that only students 18 or older are able to participate]

3. In what year did you graduate from high school?

4. What college or university are you attending or did you most recently attend?

5. Is this a 2-year institution (community college or technical college) or a 4-year institution (college or university)?
   a. 2-year institution (Community College or Technical College)
   b. 4-year institution (College or University)

6. [SKIP LOGIC: if #5 = "4-year"] What college class standing most accurately describes you right now?
   a. High School graduate (not yet enrolled in college)
   b. Freshman/first-year
   c. Sophomore/second-year
   d. Junior/third-year
   e. Senior/fourth-year
   f. Fifth-year
   g. Sixth-year or more
   h. College graduate
   i. Not enrolled during Spring 2016 term

7. Approximately how many college credits have you completed, not counting classes you are currently taking (but including credits earned during high school through PSEO, AP, IB, etc…)?
   a. 0-30 credits
   b. 31-60 credits
   c. 61-90 credits
   d. 91-120 credits
   e. more than 120 credits

8. [SKIP LOGIC: if #5 = "2-year"] How many college credit units have you completed?
    a. 0-24 units
    b. 25-59 units
    c. 60-89 units
    d. 90 units or more

9 [SKIP LOGIC: if #5 = "2-year"] Do you plan to pursue a Bachelor's degree in the future?
    a. Yes
    b. No
    c. Undecided

10. What is your estimated date of graduation from college?
    a. 2016
    b. 2017
    c. 2018
    d. 2019
    e. 2020
    f. 2021 or beyond

11. Where did you begin college?
    a. I started at my current college as a first-time freshman
    b. I started at a different 2-year college
    c. I started at a different 4-year college

12. Did you begin college as a full-time or part-time student according to your college's definition?
    a. Full-time
    b. Part-time

13. Are you currently a full-time or part-time student?
    a. Full-time
    b. Part-time
    c. Not enrolled

14. During the current academic term, about how many hours a week do you usually spend outside of class on activities related to your academic program, such as studying, writing, reading, lab work, rehearsing, etc….?

a. 5 or fewer
b. 6-10
c. 11-15
d. 16-20
e. 21-25
f. 26-30
g. more than 30

15. During the current academic term, about how many hours a week do you usually spend working at a job for pay on campus?

a. 0; I don't have a job on campus
b. 1-10
c. 11-20
d. 21-30
e. 31-40
f. more than 40

16. During the current academic term, about how many hours a week do you usually spend working at a job for pay off campus?

a. 0; I don't have a job off campus
b. 1-10
c. 11-20
d. 21-30
e. 31-40
f. more than 40

17. During the current academic term, where do you live most of the time?

a. On campus
    i. Residence hall or Dormitory
    ii. Apartment
    iii. Fraternity or sorority housing
    iv. Special interest housing (e.g. living-learning community)
    v. Other campus housing
b. Off campus
    vi. At home with family
    vii. Fraternity or sorority
    viii. Rented apartment or house
    ix. Other

B) Enrollment Plans and Decisions (dependent variable)

The next two questions ask about what you plan to do and what you would like to do. You may have different answers to these two questions or you may have the same answer for both.

1. What do you **plan to do** regarding your college enrollment after this semester/quarter is over?
    a. I plan to graduate, this is my last semester/quarter!
    b. I plan to attend my current (or most recent) institution until I graduate.
    c. I plan to transfer to a different institution.
    d. I plan to transfer to a different institution, and later return to my current (or most recent) institution.
    e. I plan to stop out temporarily, and return to my current (or most recent) institution.
    f. I plan to stop out temporarily, and return to a different institution.
    g. I plan to leave college.

2. What **would you like to do** regarding your college enrollment after this semester/quarter is over?
    a. I would like to move to the next phase of my life, because I am going to graduate after this semester/quarter!
    b. I would like to attend my current (or most recent) institution until I graduate.
    c. I would like to transfer to a different institution.
    d. I would like to transfer to a different institution, and later return to my current (or most recent) institution.
    e. I would like to stop out temporarily, and return to my current (or most recent) institution.
    f. I would like to stop out temporarily, and return to a different institution
    g. I would like to leave college.

C) College Experiences and Expectations (structural fit/rational choice factors)
In this next section, please respond to each item considering your experiences during the 2015-2016 academic year:

1. Since the beginning of the 2015-2016 academic year, are you considering a change to your major or academic concentration to another subject not offered by your current college or university?
    a. Yes
    b. No

2. Since the beginning of the 2015-2016 academic year, have you changed or do you plan to change your intended career to a field that requires a different certificate/credential/degree than the one you are currently pursuing?
    a. Yes
    b. No

3. Before you enrolled in college and began taking classes, what grades did you **expect to earn** in your college classes?
    a. A or A+
    b. A-
    c. B+
    d. B
    e. B-
    f. C+
    g. C
    h. C- or lower

4. What have most of your grades been up to now at your current (or most recent) college or university?
    a. A or A+
    b. A-
    c. B+
    d. B
    e. B-
    f. C+
    g. C
    h. C- or lower

5. How supportive is your family of you choosing your current (or most recent) college?
    a. Very Supportive
    b. Somewhat Supportive
    c. A little supportive
    d. Not supportive at all

6. Have there been any changes in your family responsibilities compared to last year?
    a. I have more family responsibilities than last year
    b. I have fewer family responsibilities than last year
    c. My family responsibilities have not changed in the past year

7. Do you have any concerns about your ability to finance your college education?
    a. No concerns (I am confident that I will have sufficient funds)
    b. Some concerns (I probably will have enough funds)
    c. Major concerns (I'm not sure I will have enough funds to complete college)

To what extent do you agree with the following items?:

a. Strongly Agree b. Agree c. Disagree d. Strongly Disagree

8. It will take me longer to graduate than I had planned.
9. It will take me less time to graduate than I had expected.
10. I may have to choose between financially supporting my family and going to college.
11. If asked, I would recommend this college to others.
12. People in my community are counting on me to do well in college.
13. I expect that completing my academic program will help me get a better job.
14. I expect that completing my academic program will help me earn more money than I would have without the degree/certificate.
15. I expect that staying in college until I graduate will help me enhance my personal and social networks.
16. I am concerned about missing current potential income due to staying in college.
17. If I could start over again, I would go to the same institution I am now attending.

D) Cognitive Sense of Belonging Scale items (Independent Variables)

In this next section, please respond to each item, answering each on a scale describing your level of agreement with each statement:

a. Strongly Agree b. Agree c. Disagree d. Strongly Disagree

Strayhorn Sense of Belonging items

1. I feel a sense of belonging on campus.
2. My friends would miss me if I left college.
3. I feel connected to other students at my college who share my interests.
4. I feel connected to other students at my college who share my identity.
5. I feel connected to other students at my college who share my values.
6. I am familiar with the campus and the surrounding area.
7. I feel that I matter to others at my college.
8. Others depend on me at my college.
9. I feel cared about by a faculty member at my college.
10. I feel cared about by a staff member at my college.
11. I feel cared about by my College Possible Coach.

F) Demographic Questions (control/comparison variables)

1. What is your marital status?
    a. Never married
    b. Married/Partnered
    c. Separated
    d. Divorced
    e. Widowed

2. Did your parents/guardians graduate from college?
    a. Yes, one or more parents/guardians graduated from college
    b. No, none of my parents/guardians graduated from college

3. What is your ethnic or racial identification? (Check all that apply)
    a. Native American, American Indian, or Alaska Native
    b. Asian or South Asian
    c. Black, African, or African American
    d. Hispanic/Latino(a)
    e. Native Hawaiian or other Pacific Islander
    f. Caucasian (other than Hispanic)
    g. Other _____

4. Which best describes your gender identity?
    a. Woman
    b. Man
    c. Transgender woman
    d. Transgender man
    e. Genderqueer or gender non-conforming
    f. Questioning
    g. Not listed
    h. Decline to state

5. Which do you consider yourself to be:
    a. Heterosexual or straight
    b. Gay or lesbian
    c. Bisexual
    d. Asexual
    e. Questioning
    f. Not listed
    g. Decline to state

6. Do you speak a language other than English at home?
    a. Yes
    b. No

E) College Possible influence

1) Which of the following best describes how College Possible has influenced your college choice?
    a) My CP coach(es) gave me lots of guidance about where to go to college
    b) My CP coach(es) helped me learn about my choices and gave me some guidance about where to go
    c) My CP coach(es) helped me learn about my choices, but did not give me guidance about where to go
    d) My CP coach(es) didn't influence my decisions about where to go to college

2) Which of the following best describes how College Possible has influenced your connectedness and sense of belonging in college?
    a) My CP coach(es) and/or my friends in the CP program are my major source of support in college
    b) My CP coach(es) and/or my friends in the CP program are one of my sources of support in college
    c) My CP coach(es) and/or my friends in the CP program are only a small source of support in college
    d) I don't interact much with my CP coach(es) and/or my friends in the CP program

Closing

Thank you for your time and your responses!

A) Would you be willing to participate in a follow-up interview to talk about your college experiences?

c. Yes
d. No

B) [SKIP LOGIC: only offer if A = yes] Please enter your preferred email address so that you can be contacted. _____@_____

If you have any questions about this survey, please contact the researcher at snyde592@umn.edu

Appendix B: Questionnaire Items by Concept

Note: Items inspired by previous survey sources are marked with subscript as follows:

$_{(1)}$ = College Student Experiences Questionnaire (Gonyea et al., 2003; Hu & Kuh, 2003)

$_{(2)}$ = Diverse Learning Experiences (Hurtado et al., 2008; Hurtado & Guillermo-Wann, 2013)

$_{(3)}$ = Your First College Year Survey (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008)

Select-out Questions to Identify Recent College Graduates (survey discontinued if so)

Concept	Item(s)
Student status	B1) Have you graduated from college?
Degree program type	B2) [if "yes" to B1] Was this a 2-year (Associate's degree) or 4-year (Bachelor's degree) program?
Future degree plans	B3) [if "2-yr" to B2] Do you intend to pursue a Bachelor's degree?

Enrollment Persistence Decision – Dependent Variable

Concept	Item(s)
Enrollment plan – following semester	B1) What do you plan to do regarding your college enrollment in fall 2016?
Enrollment desire – following semester	B2) We know that plans can sometimes be different from what you would prefer to do. What would you like to do regarding your college enrollment in fall 2016?

Cost-Benefit Analysis Variables

Concept	**Item(s)**
Expected non-monetary costs of continued enrollment	C8) It will take me longer to graduate than I had planned. (1) C9) It will take me less time to graduate than I had expected.
Expected college costs	C7) Do you have any concern about your ability to finance your college education? (2&3) C10) I may have to choose between financially supporting my family and going to college. (2)
Expected monetary benefits of continued enrollment	C13) I expect that completing my academic program will help me get a better job. C14) I expect that completing my academic program will help me earn more money than I would have without the degree/certificate.
Expected non-monetary benefits of continued enrollment	C15) I expect that staying in college until I graduate will help me enhance my personal and social networks.
Expected foregone earnings	C16) I am concerned about missing current potential income due to staying in college.

Structural Fit – Independent Variables

Concept	**Item(s)**
Academic area of interest	C1) Since the beginning of the 2014-2015 academic year, have you changed your major or academic concentration?
Intended career	C2) Since the beginning of the 2015-2016 academic year, have you changed or do you plan to change your intended career to a field that requires a different certificate/credential/degree than the one you are currently pursuing?
Ongoing academic performance	C3) What have most of your grades been up to now at your current (or most recent) college or university? (1) C4) Has your academic performance in college been as strong as you wanted it to be?
Family/community support	C5) Is your family supportive of your college choice? C6) How have your family responsibilities changed in the past year? C12) People in my community are counting on me to do well in college. (2)
General college experience	C11) If asked, I would recommend this college to others. (2) C17) If I could start over again, I would go to the same institution I am now attending. (1)

Sense of Belonging – Independent Variables

Strayhorn Sense of Belonging Items

Concept	**Item(s)**
Cognitive Sense of Belonging - general	D1) I feel a sense of belonging on campus.
Perceived peer support	D2) My friends would miss me if I left college. D3) I feel connected to other students who share my interests. D4) I feel connected to other students who share my identity. D5) I feel connected to other students who share my values.
Comfort with Surroundings	D6) I am familiar with the campus and the surrounding area.
Cognitive Sense of Belonging - social	D7) I feel that I matter to others at my college. D8) Others depend on me at my college.
Faculty/Staff Caring	D9) I feel cared about by a faculty member. D10) I feel cared about by a staff member. D11) I feel cared about by my College Possible Coach.

Demographics – Potential Control Variables

Concept	**Item(s)**
High School class	A1) In what year did you graduate from high school?
Current College/University	A2) What college or university are you attending or did you most recently attend?
College/University Sector	A3) Is this a 2-year institution (community or technical college) or a 4-year institution (college or university)?
Degree Progress (4-yr program)	A4) (if 4-yr) What is your current class standing?
Degree Progress (2-yr program)	A4) (if 2-yr) Please indicate how many college credit units you have completed:
Transfer status	A6) Where did you begin college?
Estimated time to degree	A7) What is your estimated date of graduation from college?
Initial enrollment intensity	A8) Did you begin college as a full-time or part-time student according to your college's definition?
Current enrollment intensity	A9) Are you currently a full-time or part-time student?
Academic engagement outside class	A10) During the time school is in session, about how many hours a week do you usually spend outside of class on activities related to your academic program, such as studying, writing, reading, lab work, rehearsing, etc….?
On-campus work obligations	A11) During the time school is in session, about how many hours a week do you usually spend working at a job for pay on campus?
Off-campus work obligations	A12) During the time school is in session, about how many hours a week do you usually spend working at a job for pay off campus?
Primary student residence	A13) Where are you primarily living while attending college this academic year?

First-Generation status	E3) Did your parents/guardians graduate from college?

Demographics – General Comparison and Descriptive Statistics

Concept	**Item(s)**
Age	E1) What is your current age?
Marital status	E2) What is your marital status?
Ethnicity/Race	E4) What is your ethnic or racial identification?
Gender identity	E5) Which best describes your gender identity?
Sexual orientation	E6) Which do you consider yourself to be: (sexual orientation options listed)
Other Language(s)	E7) Do you speak a language other than English at home?

Appendix C: Semi-Structured Interview Protocol

Intro: Thank you for volunteering to be interviewed. If I use quotes from this interview in my final report, I will protect your identity.

In order to make sure I remember the details our conversation correctly is it OK if I record the interview? _____

Also, just to confirm before we start the main questions, I want to make sure I have your general information correct.

- Now that the recording has started, can you confirm that you have approved the recording of this conversation?
- Could you please tell me where you have attended college since graduating from high school (including more than one if that applies) during the 2015-2016 academic year? _____
- I'd also like to know when you attended each institution you just listed. _____
- Which "year" are you right now? (i.e. freshman, sophomore, etc…) _____
- (only if "senior") Are you on track to graduate at the end of this term?

Interview Protocol

1. Please tell me about this year of college. How are things going?
    a. Could you share some important moments for you as a college student?
    b. Which experiences have been most important to you in college?
2. Do you plan to be enrolled in college next term?
3. Do you plan to stay at _____, or go to another college?
4. (if going elsewhere) Which college do you plan to attend?
5. Which factors are most important in your decision about staying in college?
6. What does it mean to you to "belong" as a college student?
7. In what ways do you feel like you belong at (institution)?
    a. What makes you feel like you do belong?
    b. What makes you feel like you don't belong?
8. Can you tell me about a specific time when you did feel like you belonged?
    a. What made you feel that way?
9. Can you tell me about a specific time when you did not feel like you belonged?
    a. What made you feel that way?
10. Is there anything else you'd like to add?

Thank you so much for your time, it was great speaking with you. Do you have any questions for me?

Have a great day, and thanks again for participating!

Appendix D: Institutional Review Board Approval

Screen capture of email from IRB is on the following page

Seth Snyder <snyde592@umn.edu>

1512E81427 - PI Snyder - IRB - Exempt Study Notification

irb@umn.edu <irb@umn.edu> Wed, Jan 6, 2016 at 4:13 PM
To: snyde592@umn.edu

TO : mand@umn.edu, snyde592@umn.edu,

The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2 SURVEYS/INTERVIEWS; STANDARDIZED EDUCATIONAL TESTS; OBSERVATION OF PUBLIC BEHAVIOR.

Study Number: 1512E81427

Principal Investigator: Seth Snyder

Title(s):
Sense of belonging and college persistence decisions for students from low-income families

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This e-mail confirmation is your official University of Minnesota HRPP notification of exemption from full committee review. You will not receive a hard copy or letter.

This secure electronic notification between password protected authentications has been deemed by the University of Minnesota to constitute a legal signature.

The study number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

Research that involves observation can be approved under this category without obtaining consent.

SURVEY OR INTERVIEW RESEARCH APPROVED AS EXEMPT UNDER THIS CATEGORY IS LIMITED TO ADULT SUBJECTS.

This exemption is valid for five years from the date of this correspondence and will be filed inactive at that time. You will receive a notification prior to inactivation. If this research will extend beyond five years, you must submit a new application to the IRB before the study's expiration date. Please inform the IRB when you intend to close this study.

Appendix E: Correlation Matrix

The full correlation matrix is included on the pages that follow. Variables in italics were not included in the final regression models.

Appendix E: Correlation Matrix [sout069] *

	1	2	3	4	5	6
Persistence Choice Desires and Plans						
1. Want to Leave	1.000***					
2. Want to Leave Institution	.904***	1.000***				
3. Plan to Leave	.623***	.585***	1.000***			
4. Plan to Leave Institution	.607***	.602***	.918***	1.000***		
Structural Fit Scales						
5. Anticipated Benefits of College Completion	-.067	-.062	-.031	-.028	1.000***	
6. Financial Worry Related to College	-.131**	-.113**	-.120**	-.057	.122**	1.000***
7. Time to Graduation Less Than Originally Estimated	-.199***	-.179***	-.134**	-.111**	.087*	.240***
8. Satisfaction with Initial College Choice	-.234***	-.232***	-.178***	-.168***	.238***	.075

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	1	2	3	4	5	6
Sense of Belonging Scales						
9. Belonging Due to General Environment	-.192***	-.185***	-.071	-.066	.267***	.180***
10. Belonging Due to Adults on Campus	*-.114***	*-.080**	*-.025*	*-.046*	*.220****	*.023*
Institutional Characteristics						
11. Selectivity of Institution	-.212***	-.189***	-.265***	-.250***	-.045	.197***
12. Public Institution	.095*	.113**	.105**	.122**	-.060	-.087*
13. Private Institution	-.095*	-.113**	-.105**	-.122**	.060	.087*
14. Size of Institution	*.069*	*.078*	*.030*	*.047*	*-.073*	*-.016*
15. Residential Nature of Institution	*-.103**	*-.094**	*-.125***	*-.120***	*.013*	*.131***
16. Two-Year College	*.294****	*.279****	*.340****	*.364****	*-.050*	*-.110***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	1	2	3	4	5	6
Student Experiences - Academic						
17. Academic Class Standing	-.129**	-.099*	-.140***	-.119**	-.080*	.037
18. Average Study Hours Per Week	-.097*	-.076	-.118**	-.096*	.166***	.128**
19. Grades Expected Prior to Beginning College	-.037	-.027	-.031	-.027	.200***	.038
20. Grades Earned in College	-.100*	-.091*	-.063	-.040	.146***	.117**
21. Initial Enrollment Intensity (PT/FT)	.123**	.097*	.106**	.124**	-.047	-.071
22. Currently Enrolled Full-Time	-.116**	-.103*	-.118**	-.110**	.059	.113**
23. Currently Enrolled Part-Time	.116**	.103*	.118**	.110**	-.059	-.113**
24. Changed Major	*.048*	*.049*	*.029*	*.022*	*-.163****	*-.038*
25. Likely to Transfer for New Major	*.543****	*.485****	*.551****	*.515****	*-.058*	*-.117*
26. Changed Career	.110**	.115**	.106**	.112**	-.097*	-.066
27. Likely to Transfer for New Career	*.419****	*.428****	*.493****	*.488****	*-.108*	*-.104*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	1	2	3	4	5	6
28. Began at Same College	-.075	-.089*	-.121**	-.112**	.085*	.082*
29. Transferred from Other 2-year Institution	.016	.024	.051	.036	-.086*	-.163***
30. Transferred from Other 4-year Institution	.077	.088*	.105**	.106**	-.033	.032
31. Want to Pursue BA after AA	-.197*	-.185*	-.075	-.100	-.102	.102
32. Total Credits Earned	*-.166****	*-.146****	*-.180****	*-.166****	*-.006*	*.114***
Student Experiences - Extracurricular						
33. On-Campus Work Hours Per Week	-.074	-.074	-.103*	-.096*	-.006	.066
34. Off-Campus Work Hours Per Week	.083*	.063	.086*	.055	.003	-.158***
35. Change in Family Responsibilities	.110**	.095*	.050	.058	.010	-.251***
36. Family Supports Choice of College	-.198***	-.168***	-.218***	-.192***	.150***	.115**
37. Sense of Belonging due to College Possible	-.136**	-.126**	.012	.019	.004	-.131**

Significance levels: *: p<.05; **: p<.01; ***: p<.00

Appendix E: Correlation Matrix (continued)

	1	2	3	4	5	6
Social Context and Demographics						
38. Help with College Choice by College Possible	*-.069*	*-.074*	*-.039*	*.002*	*.104**	*-.017*
39. Lives On-Campus in Dormitory	-.067	-.061	-.091*	-.103*	.048	.129**
40. Lives On-Campus in Other Housing	-.031	-.011	-.018	-.003	.000	.083*
41. Lives Off-Campus With Own Family	.051	.036	.124**	.131**	-.019	-.135**
42. Lives Off-Campus, Not With Own Family	.038	.036	-.038	-.043	-.035	-.042
43. First-Generation College Student	.084*	.077	.085*	.087*	-.028	.181***
44. Relationship Status – Single	.007	.015	.009	.023	-.007	.084*
45. Relationship Status – Married/Partnered	-.007	-.015	-.009	-.023	.007	-.084*
46. Woman	.088*	.076	-.075	.073	.054	.077
47. Man	-.081*	-.072	-.071	-.072	-.036	-.066

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	1	2	3	4	5	6
48. Other Gender	-.029	-.020	-.017	-.010	-.057	-.042
49. Asian, Native Hawaiian, Pacific Islander	-.091*	-.063	.006	.020	-.145***	-.147***
50. Black, African-American, African Immigrant	.006	.024	-.004	.014	.061	.110**
51. Latinx/Hispanic	.085*	.038	-.019	-.029	.046	-.074
52. White or Caucasian	.007	.000	-.039	-.041	.064	.134**
53. Multi-racial/Multi-ethnic/Other Race	.036	.022	.070	.029	.043	.039
54. LGBTQIA	.077	.099*	.058	.040	-.090*	-.080*
55. Age	*-.044*	*-.025*	*-.107***	*-.086**	*-.130***	*-.086**
56. High School Graduation Year	*.058*	*.033*	*.115***	*.102**	*.122***	*.070*
57. Estimated College Graduation Year	*.162****	*.145****	*.152****	*.147****	*.035*	*-.059*
58. Financial Worry	*.202****	*.202****	*.179****	*.170****	*-.051*	*-.394****
59. English is Home Language	*.121***	*.112***	*.058*	*.061*	*.080**	*.138***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	7	8	9	10	11	12
Structural Fit Scales						
7. Time to Graduation Less Than Originally Estimated	1.000***					
8. Satisfaction with Initial College Choice	.103*	1.000***				
Sense of Belonging Scales						
9. Belonging Due to General Environment	.188***	.360***	1.000***			
10. Belonging Due to Adults on Campus	*.129***	*.325***	*.537***	*1.000****		
Institutional Characteristics						
11. Selectivity of Institution	.229***	.001	.011	-*.083**	1.000***	
12. Public Institution	-.247***	-.058	-.133**	-*.136***	-.121**	1.000***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	7	8	9	10	11	12
13. Private Institution	.247***	.058	.133	*.136*	.121	-.1000***
14. Size of Institution	*-.137***	*-.079**	*-.158****	*-.191****	*.168****	*.752****
15. Residential Nature of Institution	*.257****	*.010*	*.098**	*.094**	*.423****	*-.693****
16. Two-Year College	*-.184****	*-.013*	*-.094**	*-.004*	*-.644****	*.337****
Student Experiences - Academic						
17. Student Academic Standing	-.099*	-.030	.013	*-.069*	-.007	-.020
18. Average Study Hours Per Week	.089*	.015	.123**	*.028*	.214***	-.091*
19. Grades Expected Prior to Beginning College	.088*	.061	.031	*-.010*	.042	.010
20. Grades Earned in College	.230***	.180***	.183***	*.131***	-.068	-.005
21. Initial Enrollment Intensity (PT/FT)	-.074	.013	-.029	*-.007*	-.192***	-.095*
22. Currently Enrolled Full-Time	.264***	.039	.107**	*.078*	.300***	-.162***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	7	8	9	10	11	12
23. Currently Enrolled Part-Time	-.264***	-.039	-.107**	*-.078*	-.300***	.162***
24. Changed Major	*-.090**	*-.002*	*.014*	*.023*	*-.036*	*.046*
25. Likely to Transfer for New Major	*-.172**	*-.063*	*-.041*	*-.041*	*-.432****	*.270****
26. Changed Career	-.051	-.045	.014	*.093**	.029	-.030
27. Likely to Transfer for New Career	*-.143**	*-.108*	*-.075*	*-.060*	*-.414****	*.316****
28. Began at Same College	.257***	.060	.170***	*.074*	.294***	-.174***
29. Transferred from Other 2-year Institution	-.102*	-.020	-.115**	*-.030*	-.167***	.141***
30. Transferred from Other 4-year Institution	-.226***	-.055	-.112**	*-.065*	-.218***	.095*
31. Want to Pursue BA after AA	.050	-.020	-.012	*.036*	-.053	-.042
32. Total Credits Earned	*.085**	*.006*	*.045*	*-.022*	*.123***	*-.099**

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	7	8	9	10	11	12
Student Experiences - Extracurricular						
33. On-Campus Work Hours Per Week	.108**	.030	.185***	*.095**	.188***	-.162***
34. Off-Campus Work Hours Per Week	-.153***	-.007	-.173***	*-.029*	-.327***	.054
35. Change in Family Responsibilities	-.211***	-.052	-.100*	*-.007*	-.177***	.109**
36. Family Supports Choice of College	.135**	.175***	.162***	*.101**	.122**	-.011
37. Sense of Belonging due to College Possible	.082*	.121**	.180***	*.270****	-.079*	.033
38. Help with College Choice by College Possible	*.020*	*.059*	*.143****	*.177****	*.047*	*-.001*
Social Context and Demographics						
39. Lives On-Campus in Dormitory	.212***	.009	.154***	*.090**	.289***	-.282***
40. Lives On-Campus in Other Housing	.012	-.017	-.093*	*-.007*	-.351***	.182***
41. Lives Off-Campus With Own Family	-.137**	.076	-.093*	*-.007*	-.351***	.182***

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	7	8	9	10	11	12
42. Lives Off-Campus, Not With Own Family	-.092*	-.100*	-.069	-.*065*	-.045	.112**
43. First-Generation College Student	-.011	-.004	-.027	-.*038*	.034	.027
44. Relationship Status – Single	.064	.005	.044	-.*008*	.183***	-.047
45. Relationship Status – Married/Partnered	-.064	-.005	-.044	.*008*	-.183***	.047
46. Woman	.027	.042	.011	-.*025*	-.050	-.063
47. Man	.003	-.026	-.004	.*013*	.073	.062
48. Other Gender	-.089*	-.052	-.021	.*038*	-.062	.009
49. Asian, Native Hawaiian, Pacific Islander	-.089*	-.001	-.029	-.*031*	.002	.044
50. Black, African-American, African Immigrant	.121**	-.053	.080*	.*022*	.037	.040
51. Latinx/Hispanic	.014	.078	-.013	.*023*	-.120**	-.051
52. White or Caucasian	.030	.041	.027	.*019*	.111**	-.051
53. Multi-racial/Multi-ethnic/Other Race	-.076	-.063	-.089*	-.*028*	-.047	-.036

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	7	8	9	10	11	12
54. LGBTQIA	-.091*	-.068	-.111**	*.044*	-.046	-.006
55. Age	*-.237***	*-.061*	*-.111***	*-.065*	*-.219****	*.115***
56. High School Graduation Year	*.232****	*.038*	*.102**	*.064*	*.201****	*-.094**
57. Estimated College Graduation Year	*-.086**	*-.009*	*-.035*	*.013*	*-.025*	*.089**
58. Financial Worry	*-.231****	*-.106***	*-.145****	*-.076*	*-.003*	*-.022*
59. English is Home Language	*-.021*	*-.030*	*-.050*	*.001*	*.027*	*-.060*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	13	14	15	16	17	18
Institutional Characteristics						
13. Private Institution	1.000***					
14. Size of Institution	*-.752****	*1.000****				
15. Residential Nature of Institution	*.693****	*-.544****	*1.000****			
16. Two-Year College	*-.337****	*.158****	*-.345****	*1.000****		
Student Experiences - Academic						
17. Student Academic Standing	.020	*-.063*	*-.005*	*-.066*	1.000***	
18. Average Study Hours Per Week	.091*	*-.050*	*.111***	*-.182****	.026	1.000***
19. Grades Expected Prior to Beginning College	-.010	*.030*	*-.023*	*-.004*	.030	.106**
20. Grades Earned in College	.005	*.034*	*-.060*	*.051*	-.035	.155***
21. Initial Enrollment Intensity (PT/FT)	-.095*	*.025*	*-.131***	*.190****	-.024	-.099*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	13	14	15	16	17	18
22. Currently Enrolled Full-Time	.162***	-.056	.213***	-.321***	-.113**	.144***
23. Currently Enrolled Part-Time	-.162***	.056	-.213***	.321***	.113**	-.144***
24. Changed Major	*-.046*	*.013*	*-.052*	*.064*	*-.165****	*-.093**
25. Likely to Transfer for New Major	*-.270****	*.167**	*-.206***	*.633****	*.070*	*-.221***
26. Changed Career	.030	-.027	.058	.036	-.048	-.010
27. Likely to Transfer for New Career	*-.316****	*.188***	*-.272****	*.583****	*-.083*	*-.209***
28. Began at Same College	.174***	-.002	.225***	-.235***	-.246***	-.048
29. Transferred from Other 2-year Institution	-.141***	-.009	-.142***	.123**	.105**	-.066
30. Transferred from Other 4-year Institution	-.095*	.010	-.156***	.183***	.211***	-.005
31. Want to Pursue BA after AA	.042	-.123	-.053	N/A	.026	-.024
32. Total Credits Earned	*.099**	*-.062*	*.064*	*-.185****	*.783****	*.080**

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	13	14	15	16	17	18
Student Experiences - Extracurricular						
33. On-Campus Work Hours Per Week	.162***	-.113**	.240***	-.147***	.138**	.076
34. Off-Campus Work Hours Per Week	-.054	-.055	-.231***	.248***	.191***	-.083*
35. Change in Family Responsibilities	-.109**	.051	-.182***	.158***	.156***	-.090*
36. Family Supports Choice of College	.011	.110**	.003	-.055	-.052	.075
37. Sense of Belonging due to College Possible	-.033	.020	-.106**	.079*	-.130**	-.026
38. Help with College Choice by College Possible	*.001*	*.041*	*-.006*	*-.033*	*-.081**	*.054*
Social Context and Demographics						
39. Lives On-Campus in Dormitory	.282***	-.263***	.467***	-.318***	-.285***	.108**
40. Lives On-Campus in Other Housing	.002	.036	.062	-.124**	.094*	.024
41. Lives Off-Campus With Own Family	-.182***	.147***	-.389***	.394***	.011	-.124**

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	13	14	15	16	17	18
42. Lives Off-Campus, Not With Own Family	-.112**	*.108***	*-.110***	*-.037*	.275***	.012
43. First-Generation College Student	-.027	*.054*	*-.011*	*-.027*	.001	.007
44. Relationship Status – Single	.047	*.039*	*.091**	*-.160****	-.091*	.089*
45. Relationship Status – Married/Partnered	-.047	*-.039*	*-.091**	*.160****	.091*	-.089*
46. Woman	.063	*-.052*	*.012*	*-.013*	.020	.054
47. Man	-.062	*.057*	*.001*	*-.024*	-.023	-.040
48. Other Gender	-.009	*-.011*	*-.039*	*.112***	.007	-.046
49. Asian, Native Hawaiian, Pacific Islander	-.044	*.022*	*-.021*	*.073*	-.062	.024
50. Black, African-American, African Immigrant	-.040	*.033*	*-.043*	*-.070*	.088*	.009
51. Latinx/Hispanic	.051	*-.047*	*-.013*	*.055*	-.038	-.069
52. White or Caucasian	.051	*-.001*	*.099**	*-.070*	.018	.030
53. Multi-racial/Multi-ethnic/Other Race	.036	*-.045*	*.016*	*-.016*	.015	.000

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	13	14	15	16	17	18
54. LGBTQIA	.006	*-.040*	*.014*	*.092**	-.022	-.037
55. Age	*-.115***	*-.003*	*-.191****	*.155****	*.660****	*-.050*
56. High School Graduation Year	*.094**	*.027*	*.149****	*-.135***	*-.722****	*.055*
57. Estimated College Graduation Year	*-.089**	*.072*	*-.030*	*.029*	*-.758****	*.002*
58. Financial Worry	*.022*	*-.032*	*.022*	*-.005*	*-.066*	*-.068*
59. English is Home Language	*.060*	*-.043*	*.095**	*-.048*	*-.021*	*-.014*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	19	20	21	22	23	24
Student Experiences - Academic						
19. Grades Expected Prior to Beginning College	1.000***					
20. Grades Earned in College	.208***	1.000***				
21. Initial Enrollment Intensity (PT/FT)	.019	.020	1.000***			
22. Currently Enrolled Full-Time	-.023	.041	-.305***	1.000***		
23. Currently Enrolled Part-Time	.023	-.041	.305***	-1.000***	1.000***	
24. Changed Major	*-.069*	*-.034*	*-.034*	*.017*	*-.017*	*1.000****
25. Likely to Transfer for New Major	*.038*	*.086*	*.213***	*-.074*	*.074*	*N/A*
26. Changed Career	-.033	-.040	-.023	.026	-.026	*.472****
27. Likely to Transfer for New Career	*-.156**	*.092*	*.249****	*-.209***	*.209***	*.108*
28. Began at Same College	-.032	.062	-.071	.206***	-.206***	*-.025*
29. Transferred from Other 2-year Institution	.026	-.067	.206***	-.196***	.196***	*-.008*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	19	20	21	22	23	24
30. Transferred from Other 4-year Institution	.017	-.021	-.081*	-.089*	.089*	*.036*
31. Want to Pursue BA after AA	-.058	.000	.034	.073	-.073	*-.009*
32. Total Credits Earned	*.060*	*.060*	*-.099**	*-.005*	*.005*	*-.171***
Student Experiences - Extracurricular						
33. On-Campus Work Hours Per Week	-.039	-.008	-.035	.109**	-.109**	*-.015*
34. Off-Campus Work Hours Per Week	-.075	-.017	.045	-.246***	.246***	*.008*
35. Change in Family Responsibilities	.033	.050	.102*	-.153***	.153***	*-.030*
36. Family Supports Choice of College	.114**	.127**	.044	.017	-.017	*-.098**
37. Sense of Belonging due to College Possible	.056	.061	.024	.002	-.002	*.054*
38. Help with College Choice by College Possible	*.077*	*.065*	*.011*	*.024*	*-.024*	*.024*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	19	20	21	22	23	24
Social Context and Demographics						
39. Lives On-Campus in Dormitory	-.049	-.024	-.097*	.203***	-.203***	*.011*
40. Lives On-Campus in Other Housing	-.001	-.106**	-.057	.076	-.076	*-.047*
41. Lives Off-Campus With Own Family	.048	.072	.119**	-.192***	.192***	*.071*
42. Lives Off-Campus, Not With Own Family	-.001	.010	.004	-.054	.054	*-.075*
43. First-Generation College Student	.011	-.016	.070	-.028	.028	*-.019*
44. Relationship Status – Single	-.060	-.020	-.084*	.245***	-.245***	*.052*
45. Relationship Status – Married/Partnered	.060	.020	.084	-.245	.245	*-.052*
46. Woman	.087*	.087*	.025	.011	-.011	*.037*
47. Man	-.068	-.082*	-.038	.012	-.012	*-.050*
48. Other Gender	-.063	-.024	.034	-.070	.070	*.036*
49. Asian, Native Hawaiian, Pacific Islander	-.056	-.051	-.035	-.056	.056	*.079**

Significance levels: *: p<.05; **: p<.01; ***: p<.00

Appendix E: Correlation Matrix (continued)

	19	20	21	22	23	24
50. Black, African-American, African Immigrant	.100*	-.002	.039	.075	-.075	*-.048*
51. Latinx/Hispanic	.038	.044	.049	.019	-.019	*.013*
52. White or Caucasian	-.040	.034	-.034	-.003	.003	*-.066*
53. Multi-racial/Multi-ethnic/Other Race	-.059	.004	-.019	-.037	.037	*-.025*
54. LGBTQIA	-.059	-.043	.044	-.006	.006	*.002*
55. Age	*.052*	*-.051*	*.051*	*-.294***	*.294****	*-.115***
56. High School Graduation Year	*-.052*	*.047*	*-.065*	*.313****	*-.313****	*.113***
57. Estimated College Graduation Year	*-.061*	*-.005*	*-.012*	*.009*	*-.009*	*.200****
58. Financial Worry	*-.050*	*-.076*	*.017*	*-.070*	*.070*	*.068*
59. English is Home Language	*-.142****	*-.056*	*-.041*	*-.006*	*.006*	*-.076*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	25	26	27	28	29	30
Student Experiences - Academic						
25. Likely to Transfer for New Major	*1.000****					
26. Changed Career	*.174**	1.000***				
27. Likely to Transfer for New Career	*.744****	*N/A*	*1.000****			
28. Began at Same College	*-.154**	.007	*-.164**	1.000***		
29. Transferred from Other 2-year Institution	*.091*	-.056	*.090*	-.563***	1.000***	
30. Transferred from Other 4-year Institution	*.111*	.037	*.127*	-.746***	-.130**	1.000***
31. Want to Pursue BA after AA	*-.104*	-.132	*-.104*	.043	.122	-.148
32. Total Credits Earned	*-.067*	*-.068*	*-.185***	*-.126***	*.031*	*.126***
Student Experiences - Extracurricular						
33. On-Campus Work Hours Per Week	*.035*	.063	*-.098*	.095*	-.049	-.075

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	25	26	27	28	29	30
34. Off-Campus Work Hours Per Week	*.117*	-.053	*.112*	-.307***	.133**	.262***
35. Change in Family Responsibilities	*.166**	-.008	*.142**	-.146***	.080*	.111**
36. Family Supports Choice of College	-*.078*	-.088*	-*.068*	.184***	-.111**	-.131**
37. Sense of Belonging due to College Possible	*.082*	.018	*.082*	.050	.038	-.091*
38. Help with College Choice by College Possible	*.097*	*.048*	*.002*	*.031*	-*.027*	-*.015*
Social Context and Demographics						
39. Lives On-Campus in Dormitory	-*.219***	.021	-*.240****	.193***	-.129**	-.127**
40. Lives On-Campus in Other Housing	-*.092*	.029	*.030*	.106**	-.071	-.071
41. Lives Off-Campus With Own Family	*.170**	-.021	*.231****	-.167***	.117**	.105**
42. Lives Off-Campus, Not With Own Family	*.121*	-.019	-*.029*	-.095*	.056	.069
43. First-Generation College Student	*.048*	-.010	*.067*	-.050	.061	.011

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	25	26	27	28	29	30
44. Relationship Status – Single	*.095*	.094*	-*.076*	.122**	-.181***	-.001
45. Relationship Status – Married/Partnered	-*.095*	-.094*	*.076*	-.122**	.181***	.001
46. Woman	*.012*	.025	-*.005*	.006	-.004	-.004
47. Man	-*.005*	-.031	-*.067*	.014	-.009	-.010
48. Other Gender	-*.018*	.017	*.192***	-.060	.038	.041
49. Asian, Native Hawaiian, Pacific Islander	-*.010*	.010	-*.043*	.022	-.021	-.010
50. Black, African-American, African Immigrant	-*.064*	-.044	*.010*	-.053	.033	.037
51. Latinx/Hispanic	*.052*	.054	*.055*	.051	.009	-.069
52. White or Caucasian	-*.051*	.020	-*.065*	.025	-.024	-.010
53. Multi-racial/Multi-ethnic/Other Race	*.065*	-.046	*.041*	-.057	.003	.066
54. LGBTQIA	*.092*	-.003	*.181***	-.048	.019	.042
55. Age	*.132*	-*.078*	*.051*	-*.404****	*.196****	*.326****

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	25	26	27	28	29	30
56. High School Graduation Year	*-.075*	*.065*	*-.034*	*.429****	*-.221****	*-.337****
57. Estimated College Graduation Year	*.089*	*.071*	*.205***	*.125***	*-.044*	*-.115***
58. Financial Worry	*-.035*	*.110***	*.026*	*-.111***	*.096**	*.056*
59. English is Home Language	*.094*	*-.001*	*.086*	*.030*	*-.063*	*.014*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	31	32	33	34	35	36
Student Experiences - Academic						
31. Want to Pursue BA after AA	1.000***					
32. Total Credits Earned	*-.110*	*1.000****				
Student Experiences - Extracurricular						
33. On-Campus Work Hours Per Week	-.002	*.168****	1.000***			
34. Off-Campus Work Hours Per Week	-.005	*.087**	-.278***	1.000***		
35. Change in Family Responsibilities	-.151	*.102**	-.112**	.231***	1.000***	
36. Family Supports Choice of College	.016	*-.053*	.041	-.124**	-.008	1.000***
37. Sense of Belonging due to College Possible	.157	*-.131***	-.007	.002	.015	.082*
38. Help with College Choice by College Possible	*-.040*	*-.065*	*.025*	*-.060*	*-.054*	*.158****

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	31	32	33	34	35	36
Social Context and Demographics						
39. Lives On-Campus in Dormitory	.062	-.*214****	.177***	-.340***	-.293***	.030
40. Lives On-Campus in Other Housing	-.053	.*177****	.088*	-.125**	-.087*	.066
41. Lives Off-Campus With Own Family	.068	-.*045*	-.202***	.269***	.272***	-.005
42. Lives Off-Campus, Not With Own Family	-.074	.*201****	-.015	.157***	.067	-.079*
43. First-Generation College Student	-.066	.*054*	.053	-.077	-.047	.078
44. Relationship Status – Single	-.068	-.*079**	.092*	-.075	-.177***	.048
45. Relationship Status – Married/Partnered	.068	.*079**	-.092*	.075	.177***	-.048
46. Woman	-.127	.*050*	.099*	-.016	-.029	.073
47. Man	.132	-.*038*	-.101*	.024	.029	-.057
48. Other Gender	.011	-.*039*	-.005	-.022	.001	-.055
49. Asian, Native Hawaiian, Pacific Islander	.236*	-.*080**	.056	-.169***	-.027	-.066

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	31	32	33	34	35	36
50. Black, African-American, African Immigrant	-.167	*.111***	-.39	.080*	-.018	.056
51. Latinx/Hispanic	-.063	*-.046*	-.145***	.113**	.092*	-.009
52. White or Caucasian	-.134	*.057*	.055	-.046	-.062	.097*
53. Multi-racial/Multi-ethnic/Other Race	-.010	*-.023*	-.052	.116**	.026	-.068
54. LGBTQIA	.130	*-.039*	-.007	-.038	.053	-.005
Student Experiences - Academic						
55. Age	*-.050*	*.518****	*.014*	*.294****	*.174****	*-.121***
56. High School Graduation Year	*.090*	*-.584****	*-.016*	*-.327****	*-.184****	*.127***
57. Estimated College Graduation Year	*-.272***	*-.694****	*-.123***	*-.156****	*-.131***	*-.066*
58. Financial Worry	*-.234**	*-.083**	*-.040*	*.069*	*.135***	*-.123***
59. English is Home Language	*-.180*	*.011*	*.072*	*.003*	*-.045*	*.036*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	37	38	39	40	41	42
37. Sense of Belonging due to College Possible	1.000***					
38. Help with College Choice by College Possible	*.385****	*1.000****				
Social Context and Demographics						
39. Lives On-Campus in Dormitory	-.020	*.039*	1.000***			
40. Lives On-Campus in Other Housing	-.104*	*-.043*	-.199***	1.000***		
41. Lives Off-Campus With Own Family	.128**	*.057*	-.603***	-.257***	1.000***	
42. Lives Off-Campus, Not With Own Family	-.072	*-.094**	-.305***	-.130**	-.393***	1.000***
43. First-Generation College Student	-.063	*.013*	.021	.047	-.055	.013
44. Relationship Status – Single	-.010	*.058*	.128**	.033	-.098*	-.053
45. Relationship Status – Married/Partnered	.010	*-.058*	-.128**	-.033	.098*	.053
46. Woman	-.076	*-.064*	-.013	.017	-.040	.059

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	37	38	39	40	41	42
47. Man	.074	*.064*	.029	-.003	.004	-.039
48. Other Gender	.014	*.006*	-.046	-.041	.113**	-.063
49. Asian, Native Hawaiian, Pacific Islander	.151***	*-.021*	-.067	-.018	.117**	-.059
50. Black, African-American, African Immigrant	-.017	*.048*	-.005	.072	-.018	-.022
51. Latinx/Hispanic	-.049	*.055*	-.004	-.078*	-.063	-.022
52. White or Caucasian	-.147***	*-.023*	.108**	-.049	-.163***	-.047
53. Multi-racial/Multi-ethnic/Other Race	-.032	*-.083**	-.018	-.032	-.100*	.134**
54. LGBTQIA	-.007	*.025*	-.026	.020	.018	-.006
55. Age	*-.118***	*-.127***	*-.314****	*.005*	*.060*	*.309****
56. High School Graduation Year	*.158****	*.155****	*.343****	*-.015*	*-.080**	*.312****
57. Estimated College Graduation Year	*.078*	*.079**	*.266****	*-.104***	*-.023*	*-.227****

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	37	38	39	40	41	42
58. Financial Worry	*.063*	*.005*	*.002*	*.002*	*-.016*	*.018*
59. English is Home Language	*-.201****	*-.040*	*.170****	*.053*	*-.219****	*.041*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	43	44	45	46	47	48
Social Context and Demographics						
43. First-Generation College Student	1.000***					
44. Relationship Status – Single	.063	1.000***				
45. Relationship Status – Married/Partnered	-.063	-1.000***	1.000***			
46. Woman	.034	-.022	.022	1.000***		
47. Man	-.036	.012	-.012	.945***	1.000***	
48. Other Gender	.004	.030	-.030	-.258***	-.072	1.000***
49. Asian, Native Hawaiian, Pacific Islander	-.215***	.000	.000	-.012	.003	.029
50. Black, African-American, African Immigrant	.132**	.020	-.020	.023	-.008	-.047
51. Latinx/Hispanic	-.152***	-.079*	.079	-.023	.043	-.055
52. White or Caucasian	.256***	.068	-.068	-.007	-.004	.034
53. Multi-racial/Multi-ethnic/Other Race	.115**	-.005	.005	.027	-.046	.054

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	43	44	45	46	47	48
54. LGBTQIA	-.019	.017	-.017	-.112**	-.002	.348***
55. Age	*-.071*	*-.277****	*.277****	*.017*	*-.008*	*-.026*
56. High School Graduation Year	*.013*	*.265****	*-.265****	*-.028*	*.028*	*.003*
57. Estimated College Graduation Year	*-.030*	*.126***	*-.126***	*-.046*	*.043*	*.012*
58. Financial Worry	*.053*	*.026*	*-.026*	*.065*	*-.065*	*-.007*
59. English is Home Language	*.307****	*.093**	*-.093**	*.023*	*-.049*	*.075*

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	49	50	51	52	53	54
49. Asian, Native Hawaiian, Pacific Islander	1.000***					
50. Black, African-American, African Immigrant	-.514***	1.000**				
51. Latinx/Hispanic	-.374***	-.209***	1.000***			
52. White or Caucasian	-.309***	-.172***	-.126***	1.000***		
53. Multi-racial/Multi-ethnic/Other Race	-.260***	-.145***	-.106**	-.087*	1.000***	
54. LGBTQIA	.029	-.072	.034	-.035	.055	1.000***
55. Age	.004	.054	-.074	-.041	.056	-.001
56. High School Graduation Year	.032	-.078	.067	.030	-.065	.014
57. Estimated College Graduation Year	.053	-.065	.006	.005	-.018	-.017
58. Financial Worry	.041	-.026	-.034	-.032	.047	.046
59. English is Home Language	-.494***	.214***	-.193***	.498***	.307***	.060

Significance levels: *: p<.05; **: p<.01; ***: p<.001

Appendix E: Correlation Matrix (continued)

	55	56	57	58	59
Social Context and Demographics					
55. Age	*1.000****				
56. High School Graduation Year	*-.926****	*1.000****			
57. Estimated College Graduation Year	*-.561****	*.605****	*1.000****		
58. Financial Worry	*.027*	*-.014*	*.098**	*1.000****	
59. English is Home Language	*-.043*	*.018*	*.082**	*-.020*	*1.000****

Significance levels: *: p<.05; **: p<.01; ***: p<.001